

OTC

TOOLS

Catalogue No 26

OWATONNA  
TOOL CO.

OWATONNA, MINN.



## **oTc Guarantee**

Our guarantee conforms to and is in accordance with Article VI, Section XIX, Supplementary Code of Fair Competition for the Wrench Manufacturing Industry as approved and effective April 15, 1934.

Pursuant to Industry Code, all express guarantees are withdrawn and are limited to defects in material and workmanship. No claims will be allowed until after shipment is received at factory, shipping charges prepaid, and determination by us of defects, if any.

Service on oTc Tools is offered at any time during the life of our tools at a cost to the user covering only material and labor necessary to recondition.

Replacements are made at our factory ONLY and not by oTc salesmen.

**OWATONNA TOOL COMPANY**  
Owatonna, Minnesota.

## **We Pay**

postage and C. O. D. Charges  
on all orders for \$3.50 or over.

We also pay postage on all "Paid in Advance" Orders.



# Foreword

It has been the aim of the Owatonna Tool Company in the past to build the best tools it was possible to make. No detail of construction or design was too small to receive our most serious attention and every effort was made to build oTc tools out of the finest material obtainable.

In these days of mass production, and strenuous competition the tendency with many tool manufacturers is to substitute low grade material and indifferent, unskilled labor in an effort to lower their prices; but with a consequent sacrifice of quality. During the past years when everyone was looking for ways and means of selling their merchandise at reduced prices oTc was looking for more advanced methods of manufacturing and heat treating, and finer materials. In other words, our aim has never changed. We have continued and shall continue to use the finest material regardless of cost; we shall employ skilled labor more than ever in an effort to improve our present line and to bring out new equipment so necessary in the modern automotive service shop.

oTc tools are designed to make your work faster and easier, to whip "tough jobs" that are continually cropping up in new model cars and trucks, and you may be sure that when you tackle a job with an oTc tool there will be no interruption in the job due to faulty design or construction.

oTc tools are designed and built by mechanics, for mechanics who appreciate good tools. oTc quality is the result of years of experience in the building of tools plus high grade materials, scientific heat treating and a manufacturing plant that is one of the most modern and completely equipped special tool plants in the country.

We believe that the mechanic of today is interested not in cheaply built tools, but in quality tools at a fair price, and we shall continue our policy of building the **FINEST TOOLS MONEY CAN**

**Prices Are Net — Subject to Change Without Notice.**

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Wrench Openings	S.A.E. Nuts and Cap Screws	U.S.S. Nuts	U.S.S. Hex. Hd. Cap Screw
$\frac{3}{8}$ "			$\frac{3}{16}$ "
$\frac{7}{16}$ "	$\frac{1}{4}$ "		$\frac{1}{4}$ "
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$1\frac{11}{16}$ "			
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$1\frac{13}{16}$ "	$1\frac{1}{4}$ "	$1\frac{1}{8}$ "	
$1\frac{7}{8}$ "			
2 "	$1\frac{3}{8}$ "	$1\frac{1}{4}$ "	
Wrench Openings	U.S.S. Sq. Nut	U.S.S. Sq. Hd. Cap Screw	U.S.S. Sq. Hd. Set Screw
$\frac{3}{8}$ "		$\frac{1}{4}$ "	$\frac{3}{8}$ "
$\frac{7}{16}$ "		$\frac{5}{16}$ "	$\frac{7}{16}$ "
$\frac{1}{2}$ "	$\frac{1}{4}$ "	$\frac{3}{8}$ "	$\frac{1}{2}$ "
$\frac{9}{16}$ "		$\frac{7}{16}$ "	$\frac{9}{16}$ "
$\frac{5}{8}$ "		$\frac{1}{2}$ "	$\frac{5}{8}$ "
$1\frac{1}{16}$ "	$\frac{3}{8}$ "	$\frac{9}{16}$ "	
$\frac{3}{4}$ "		$\frac{5}{8}$ "	$\frac{3}{4}$ "
$\frac{7}{8}$ "	$\frac{1}{2}$ "	$\frac{3}{4}$ "	$\frac{7}{8}$ "
1 "			1 "



## oTc 12 Point Standard Sockets

oTc Sockets are recognized by mechanics everywhere as being the highest quality sockets ever made. This statement is based on facts. Thousands of men throughout the country have taken the trouble to write us voluntarily and tell us of the wonderful service oTc Sockets have given them.

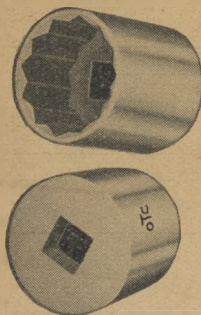
They are Hot Forged from finest Chrome Vanadium steel and due to this Hot Forging are exceptionally strong and more accurate as to size.

They are individually Heat Treated in electrically controlled furnaces which insures uniformity in strength and toughness.

The highly polished steel finish gives them an appearance that shows at a glance their exceptional quality. We invite you to compare oTc Sockets with any other socket on the market for strength, design and finish. They are masterpieces of the toolmakers craft and second to none.

## oTc Set Units

### 1/2" Square Adaptor Openings



Socket Opening Size	Price	Socket Opening Size	Price
7/16"	\$0.50	1 1/16"	\$0.70
1/2"	.50	7/8"	.70
9/16"	.50	15/16"	.75
19/32"	.50	31/32"	.75
5/8"	.50	1"	.75
21/32"	.60	1 1/16"	.85
11/16"	.60	1 1/8"	.90
3/4"	.60	1 3/16"	.95
25/32"	.65	1 1/4"	.95

Refer to page 3 for Wrench Opening Sizes.

oTc Speed Handle, 15" Over-all.....	\$1.25
oTc Speed Handle, 18" Over-all.....	1.50
oTc Flex Speeder.....	2.50
oTc Offset Handle.....	.90
oTc Sliding T Handle.....	1.10
oTc Flex Ratchet with Plug.....	4.25
oTc Ratchet Wrench with Plug.....	3.85
oTc Ratchet Wrench Plug.....	.50
oTc 1/2" Male x 3/8" Male Adapter Plug.....	.75
oTc Universal Joint.....	1.50
oTc 1 1/2" Extension.....	.60
oTc 3" Extension.....	.75
oTc 6" Extension.....	.75
oTc 10" Extension.....	.85
oTc 18" Extension.....	1.00
oTc Flex Handle, 12" with T Bar.....	1.75
oTc Flex Handle, 15" with T Bar.....	2.00
oTc Flex Handle, 18" with T Bar.....	2.50
oTc Socket Set Box.....	1.50

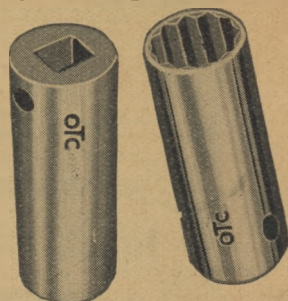
**oTc Sockets** are forged **HOT** in a machine weighing over 15 tons and exerting tremendous pressure. The steel is forced around a forming tool to shape the inside of the socket. This method vastly improves the texture of the steel as well as making the opening cleanly and accurately. There is absolutely no tearing of the metal as there is in the old style cold-punched socket.

### **oTc Spark Plug Sockets**

**3 1/2" Long — 1/2" Square Adaptor Openings**

Hot forged and accurate, with very thin walls to get in close places on the latest motors. Highly polished steel finish.

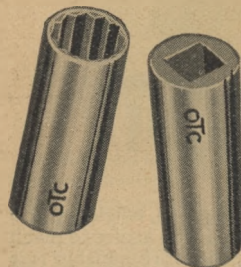
Socket Opening Size	Price	Socket Opening Size	Price
13/16"	\$1.05	1"	\$1.25
7/8"	1.10	1 1/8"	1.35
15/16"	1 15		



### **oTc Extra Length Sockets**

**3" Long — 1/2" Square Adaptor Openings**

These Sockets are especially designed for shackle, spring clip and body bolts, but are also indispensable for a great many other jobs. They are hot forged with very thin walls and are exceptionally strong. Highly polished steel finish.

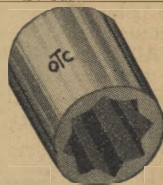


Socket Opening Size	Price	Socket Opening Size	Price	Socket Opening Size	Price	Socket Opening Size	Price
1/2"	\$0.70	11/16"	\$0.90	13/16"	\$1.00	1 1/16"	\$1.20
9/16"	.80	3/4"	.90	7/8"	1.00	1 1/16"	1.35
5/8"	.80	25/32"	.95	15/16"	1.05		

### **oTc Eight Point Sockets**

**1/2" Square Adaptor Openings**

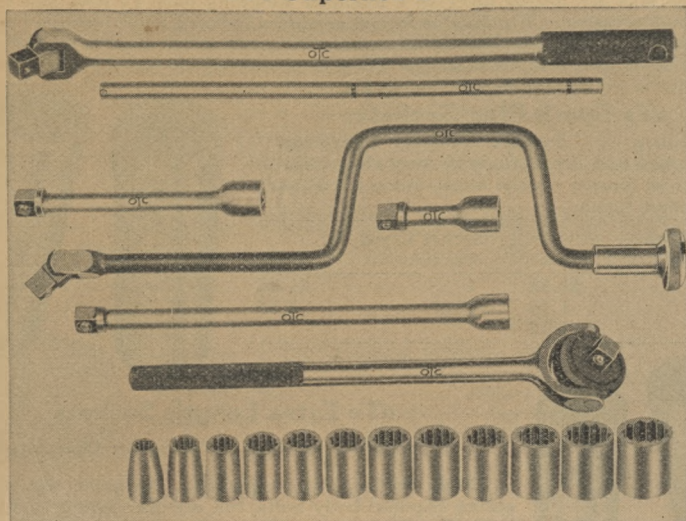
These Sockets are hot forged and very strong, and are very useful for Ford main bearings and brake adjustments, body bolts on a great many cars, etc. Highly polished steel finish.



Socket Opening Size	Price	Socket Opening Size	Price
1/16"	\$0.50	5/8"	\$0.50
1/2"	.50	11/16"	.60
9/16"	.50	9/4"	.60

Refer to page 3 for Wrench Opening Sizes.

## oTc Superflex Set



A combination of sockets and handles designed to increase the speed, efficiency and thoroughness of every mechanic who owns this set. To those men who aspire to reach a maximum of efficiency and who take pride and interest in good workmanship this set would prove to be a factor in their success.

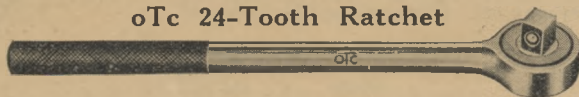
Consisting as it does of all of the most popular handles and socket sizes most needed in every day work, this set combines a maximum of utility and flexibility at a very low price.

The oTc Superflex Socket Set consists of the following pieces: Twelve, 12 point Sockets— $\frac{7}{16}$ "— $\frac{1}{2}$ "— $\frac{9}{16}$ "— $\frac{5}{8}$ "— $\frac{3}{4}$ "— $\frac{11}{16}$ "— $\frac{3}{4}$ "— $\frac{25}{32}$ "— $\frac{13}{16}$ "— $\frac{7}{8}$ "— $\frac{15}{16}$ " and 1". 15" Flex Handle (with T Bar), Flex Brace, and twenty four tooth Flex Ratchet—3 extensions—3"—6" and 10".

All parts made from a high grade Chrome Alloy Steel and individually heat treated to withstand constant use and service. Highly polished steel finish.

oTc Superflex Set (as pictured above) .....\$18.45  
oTc Superflex Set, Box .....\$1.50

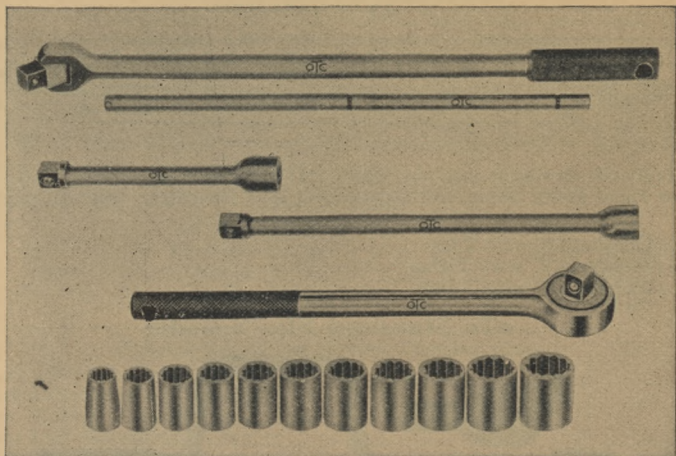
## oTc 24-Tooth Ratchet



A very smooth working ratchet with 24 husky teeth, four dogs always engaged, enclosed to keep out dirt and grease. Equipped with "push thru" type plug. Will not wedge or stick. This ratchet is built for heavy service.  
Price—Standard, with  $\frac{1}{2}$ " Square Plug .....\$3.85



## oTc No. 15 Standard Flex Set

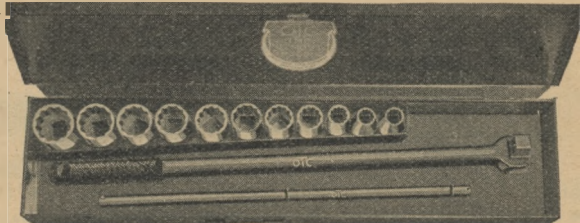


A medium priced combination of sockets and handles that is within the reach of every pocketbook. This set can be used on all makes of cars and on a great variety of jobs. Contains the following pieces: Eleven, 12 point sockets, from  $\frac{1}{16}$  to 1" inclusive, 15" Flex Handle, 6 and 10 inch Extensions and the oTc 24 tooth Ratchet in a strong metal carrying case.

Price complete in box.....\$15.20

## oTc No. 14 Standard Flex Set

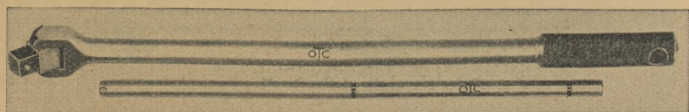
This combination has been made up particularly for the man who cannot afford to buy a complete set of oTc Sockets and Handles at one time. Because we recognize the fact that the man who buys this set will eventually wish to complete it we have enlarged the metal box in order that the rest of the handles may be added later if desired.



Consists of 14 units as follows: Eleven Twelve Point Sockets,  $\frac{1}{16}$ ",  $\frac{1}{8}$ ",  $\frac{9}{16}$ ",  $\frac{5}{8}$ ",  $1\frac{1}{16}$ ",  $\frac{3}{4}$ ",  $2\frac{5}{16}$ ",  $1\frac{3}{16}$ ",  $\frac{7}{8}$ ",  $1\frac{5}{16}$ " and 1" ( $\frac{1}{2}$ " square adaptor openings) 15" Flex and T Bar. Steel Box.

oTc No. 14 Flex Set Complete (Tools only).....\$8.75  
Steel Box.....1.00

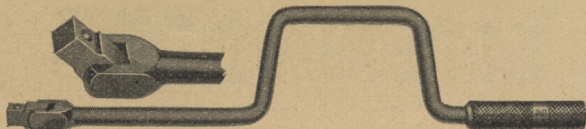
### oTc Standard Flex Handles 1/2" Square Adaptors



Positively the strongest and most perfectly balanced Flex Handles made. Just the thing for Head Bolts, Main and Connecting Rod Bearings. Highly polished steel finish.

oTc Flex Handle, 12" with T Bar.....	\$1.75
oTc Flex Handle, 15" with T Bar.....	2.00
oTc Flex Handle, 18" with T Bar.....	2.50

### oTc Standard Flex Speeder



A short throw brace, with the valuable flex feature. Leverage, to break loose or tighten the toughest nut—speed to spin them on, or off. A wonderfully handy and convenient tool. 1/2" Square Adaptor, length 16" overall.

Price.....\$2.50

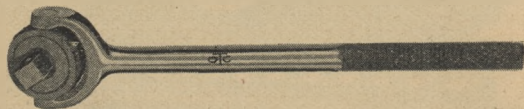
### oTc Uni-Flex Head Bolt Speeder

(Not Illustrated)

Brace is 28" long overall with 18" shank, clears obstructions on head bolts, fender support rods and works well under dash. Used with Standard Sockets, permits of a wide range of uses.

Price.....\$2.50

### oTc Flex Ratchet



A radical departure in socket wrench handles. Combines all of the good features of the Flex Handle—with those of the 24 tooth oTc Ratchet.

Made in both Standard (1/2" Square Adaptor) and Junior (3/8" Square Adaptor) sizes and a necessity with either set to the mechanic who wishes to save time. Has push thru plug.

Price, Standard with 1/2" Sq. Plug.....	\$4.25
Price, Junior with 3/8" Sq. Plug.....	3.25

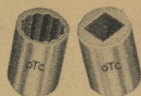
**oTc Junior 12 Point Sockets** **$\frac{3}{8}$ " Square Adaptor Openings**

Because of their design, exceptionally thin walls, light weight and great strength, these Junior Sockets and Handles have proven to be extremely popular with all classes of mechanics. They are ideally suited for work on crank cases, manifold nuts and all light fast work in inaccessible places on Trucks and Tractors as well as on all makes of passenger cars.

Hot forged from Chrome Vanadium steel the Sockets are accurate as to size and short enough to make a close coupled wrench when used with the Junior Handles.

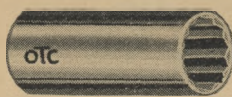
Sockets and Handles highly polished steel finish.

Socket Opening Size	Price	Socket Opening Size	Price
$\frac{3}{8}$ "	\$0.40	$\frac{5}{8}$ "	\$0.40
$\frac{7}{16}$ "	.40	$1\frac{1}{16}$ "	.40
$\frac{1}{2}$ "	.40	$\frac{3}{4}$ "	.40
$\frac{9}{16}$ "	.40		



Refer to page 3 for Wrench Opening Sizes

oTc Junior Speed Handle, 15" Over-all	\$1.25
oTc Junior Offset Handle	.75
oTc Junior Sliding T Handle	1.10
oTc Junior $1\frac{1}{2}$ " Extension	.60
oTc Junior 3" Extension	.75
oTc Junior 6" Extension	.75
oTc Junior 10" Extension	.85
oTc Junior 18" Extension	1.00
oTc Junior Flex Handle	1.75
oTc Junior One Hand Speeder	1.25
oTc Junior Universal Joint	1.50
oTc Junior Adaptor, $\frac{3}{8}$ " sq. Male x $\frac{1}{2}$ " sq. Male	.75
oTc Junior Flex Ratchet with Plug	3.25
oTc Junior Ratchet with Plug	2.85
oTc Junior Ratchet Plug	.35
oTc 12" Junior T Handle	1.25
oTc 20" Junior T Handle	1.50
oTc Junior Tie Rod Socket	.50
oTc Junior Socket Set Box	1.25

**oTc Deep Junior Sockets**

For use on Hexagon and Square nuts in running board channels, fender support, body bolt work and on piston pin locks. These 2" Junior Sockets are ideally suited to this work because of their extra length and thin walls. To be used with Junior Handles— $\frac{3}{8}$ " square adaptor openings.

**Twelve Point**

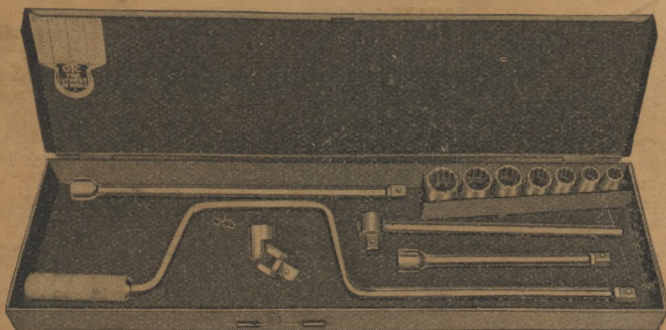
$\frac{3}{8}$ "	\$0.50
$\frac{7}{16}$ "	.50
$\frac{1}{2}$ "	.50
$\frac{9}{16}$ "	.50
$\frac{5}{8}$ "	.50

**Eight Point**

$\frac{3}{8}$ "	\$0.50
$\frac{7}{16}$ "	.50
$\frac{1}{2}$ "	.50



## oTc Junior Socket Sets



## oTc Junior No. 13 Socket Set

Consists of 13 units as follows:

Seven twelve point Junior sockets,  $\frac{3}{8}$ " ,  $\frac{7}{16}$ " ,  $\frac{1}{2}$ " ,  $\frac{9}{16}$ " ,  $\frac{5}{8}$ " ,  $\frac{11}{16}$ " ,  $\frac{3}{4}$ " (  $\frac{3}{8}$ " Square Adaptor openings ) 15" Speed Handle—Sliding T Bar—6" Extension, 10" Extension, Universal Joint. Steel Box. All tools highly polished steel finish.

Set Complete (Tools only) ..... \$8.25  
No. 13 Box ..... 1.25

## oTc Junior No. 17 Socket Set

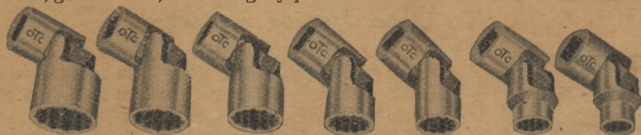
Complete Junior Set consisting of the 17 following units: 7 Sockets; Speed Handle; Sliding T Handle; Offset Handle; Flex Handle; One Hand Speeder; 6 and 10" Extension; Ratchet; Universal Joint. Steel Box. All tools polished steel finish.

Set Complete (Tools only) ..... \$14.85  
No. 17 Box ..... 1.25

## oTc Junior Universal Sockets

$\frac{3}{8}$ " Square Adaptor Openings

These are the shortest coupled and thinnest walled universal sockets made and are a valuable addition to any mechanic's kit. Will work at nearly right angles. Just the thing for pan bolts, manifold nuts, carburetors, fly wheel housings, universal joint bolts, starters, generators, etc. Highly polished steel finish.



Socket Size	Price	Socket Size	Price
$\frac{3}{8}$ "	\$1.40	$\frac{5}{8}$ "	\$1.50
$\frac{7}{16}$ "	1.40	$\frac{11}{16}$ "	1.60
$\frac{1}{2}$ "	1.40	$\frac{3}{4}$ "	1.60
$\frac{9}{16}$ "	1.50		

Refer to page 3 for wrench opening sizes.



## oTc Junior Universal Tee Wrenches

These Junior Tee Wrenches, with Universal Sockets attached, have become exceedingly popular during the past few years. Built light and strong for fast work they allow reaching into tough places at difficult angles with no danger of the socket falling off. Especially good for manifold work, crank cases, bell housing, starters, generators, differential covers, universal joint bolts, carburetors, etc., as well as work on all types of air plane motors.

Sockets are very thin and strong. Shank is made from  $\frac{3}{8}$ " round stock and heat treated from end to end. Polished steel finish.

Socket Size	Length Handle 12"	20"	Socket Size	Length Handle 12"	20"
$\frac{3}{8}$ "	\$2.50	\$2.75	$\frac{5}{8}$ "	\$2.75	\$3.00
$\frac{7}{16}$ "	2.50	2.75	$\frac{11}{16}$ "	2.75	3.00
$\frac{1}{2}$ "	2.50	2.75	$\frac{3}{4}$ "	2.75	3.00
$\frac{9}{16}$ "	2.50	2.75			

## oTc Junior One Hand Speeder



A distinct innovation in speed handles. Has  $\frac{3}{8}$ " square adaptor for use with oTc Junior Sockets.

Price.....\$1.25

## oTc Junior Tee Handles

oTc Junior Tee Handles are for use with either our Junior Sockets or Junior Universal Sockets. Strong and light. Highly polished steel finish.

12" Jr. T Handle.....\$1.25  
20" Jr. T Handle.....1.50

## oTc 12" Junior Universal T Handle

Same construction as Junior T wrench (shown above) but has universal joint and  $\frac{3}{8}$ " Square Adaptor. This Handle, with a set of Junior Sockets, makes a practical and economical set.

Price.....\$2.25

## oTc Junior Flex Handles



Hand forged from Chrome-Vanadium steel and heat treated to stand hard knocks and give perfect and satisfactory service.

Price 10" with  $\frac{3}{8}$ " Adaptor and T Bar.....\$1.75

### oTc Heavy Duty Sockets

Up to the present time it was generally believed that in order to do heavy duty work on Tractors, Trucks, Steam Shovels, etc., and to stand the abuse that apparently was necessary on this kind of equipment, Sockets had to be thick and heavy and the Handles had to be big and clumsy.

When oTc started building Heavy Duty Socket Sets, the exceptionally thin Sockets and the light, well balanced Handles were a revelation to the trade. oTc has set a standard for Heavy Duty equipment that has not yet been equaled.

Close examination of these Hot Forged Heavy Duty Sockets will convince you of their accuracy as to size, their unequalled strength and their extremely thin walls.

Socket Opening Size	Price	Socket Opening Size	Price	Socket Opening Size	Price
$\frac{7}{8}$ "	\$0.90	$1\frac{1}{4}$ "	\$1.10	$1\frac{5}{8}$ "	\$1.50
$1\frac{1}{8}$ "	.90	$1\frac{5}{16}$ "	1.20	$1\frac{11}{16}$ "	1.65
1"	.90	$1\frac{3}{8}$ "	1.20	$1\frac{3}{4}$ "	1.75
$1\frac{1}{16}$ "	.90	$1\frac{7}{8}$ "	1.30	$1\frac{13}{16}$ "	2.00
$1\frac{1}{8}$ "	1.00	$1\frac{1}{2}$ "	1.40	2"	2.25
$1\frac{3}{16}$ "	1.05				

Refer to page 3 for Wrench Opening Sizes.

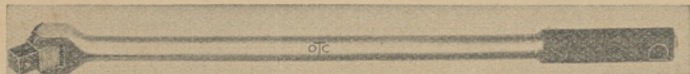
oTc $4\frac{1}{2}$ " Extension	\$1.25
oTc 10" Extension	1.50
oTc 18" Extension	2.50
oTc 20" Sliding Bar	2.25
oTc 20" Flex Handle	4.00
oTc Heavy Duty Ratchet Wrench	7.50
oTc No. 10 Set, Metal Box	2.00
oTc No. 19 Set, Metal Box	3.00

### oTc Heavy Duty Ratchet Wrench



Has 36 teeth, permitting a short throw, four dogs, always in engagement. A brute for strength, yet small in size and weighs only 3 pounds. Handle 20" long.  
Price.....\$7.50

### oTc 20" Heavy Duty Flex Handles



These handles are forged from  $\frac{3}{4}$ " round stock and are ideal for main bearings, head bolts, connecting rods, axle work, etc., on tractors, trucks, graders, shovels and cars.

Highly Polished Steel Finish.

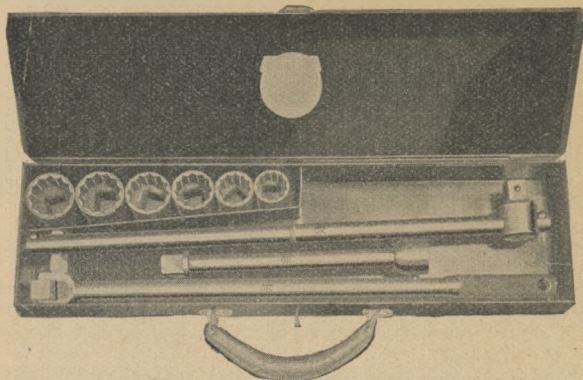
Price,  $\frac{3}{4}$ " Adaptor.....\$4.00



### oTc No. 10 Heavy Duty Socket Set

This set is designed for general garage work. A wonderful set for work on light Trucks and Tractors, Axle Nuts on passenger cars, etc., where the larger size sockets cannot be used. It is possible to add more sockets and handles as needed, and this set forms a nucleus for a wonderful Heavy Duty Set.

Consists of 10 units as follows: 6 twelve point sockets  $1\frac{1}{16}"$ ,  $1\frac{1}{8}"$ ,  $1\frac{1}{4}"$ ,  $1\frac{3}{8}"$ ,  $1\frac{1}{2}"$ ,  $1\frac{5}{8}"$ ,  $(\frac{3}{4}"$  square adaptor openings); 10" extension; 20" sliding bar; 20" flex handle. Steel box.



Set Complete (Tools only).....	\$14.65
Box.....	2.00

### oTc No. 19 Heavy Duty Socket Set

(Not Illustrated)

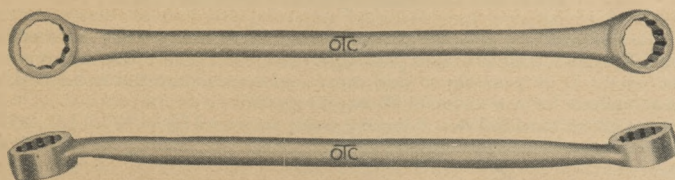
A complete set of oTc Heavy Duty Sockets and Handles as listed below. This Heavy Duty Set is designed to handle work on all kinds of heavy equipment such as Trucks, Tractors, Graders, Steam Shovels, etc., and for service work on all types of Industrial machinery. It is essential in every shop where this type of work is done. As a unit it will save its cost in time and labor many times over.

Set consists of 19 units as follows: 12 Heavy Duty 12 Point Sockets, ( $1\frac{1}{16}"$ ,  $1\frac{1}{8}"$ ,  $1\frac{1}{4}"$ ,  $1\frac{3}{8}"$ ,  $1\frac{1}{2}"$ ,  $1\frac{5}{8}"$ ,  $1\frac{3}{4}"$ ,  $1\frac{7}{8}"$ ,  $1\frac{1}{2}"$ ,  $1\frac{5}{8}"$ ,  $1\frac{11}{16}"$ ,  $1\frac{3}{4}"$ ,  $1\frac{13}{16}"$ , and 2") 4 $\frac{1}{2}"$  Extension, 10" Extension, 18" Extension, 20" Sliding Tee Bar, 20" Flex Handle, Heavy Duty Ratchet, and Heavy Steel Carrying Case.

Set Complete (Tools only).....	\$36.25
No. 19 Heavy Duty Box.....	3.00

Order at least \$3.50 worth of tools and we will pay postage and C. O. D. charges anywhere in the U. S.

## oTc Twelve Point Box Wrenches



Despite the flood of cheap and inferior quality Box Wrenches on the market and a natural temptation to meet competition by substituting low grade materials, oTc has continued to build a superior wrench without sacrificing the fine quality of which we are so proud.

Constant refinement and improvement in design, materials, workmanship and heat treatment are represented in oTc Box Wrenches. In a comparatively short time Box Wrenches have become essential in garage work and no tool kit is complete without a set of these fine wrenches. They are performing a large percentage of the work formerly done by sockets, open end and adjustable wrenches and have proven to be of great value as time and labor savers.

oTc 12 Point Box Wrenches are light in weight and convenient to use. Because of their unique offset construction, they will get into tight places and because of their wonderful strength they will stand a maximum amount of hard service.

We have built oTc Box Wrenches to conform to our high standards and still have been able to produce them cheaply enough so that they are within the reach of every pocketbook. A short trial will convince you that oTc 12 Point Box Wrenches are the cheapest in the long run.

Built of high grade Chrome Vanadium Alloy Steel and tempered individually they represent a maximum of value for your "tool dollar". Highly polished steel finish.

Wrench numbers preceded by the letter "S" designates Short Pattern, all others are Long Pattern.

## Table of Sizes

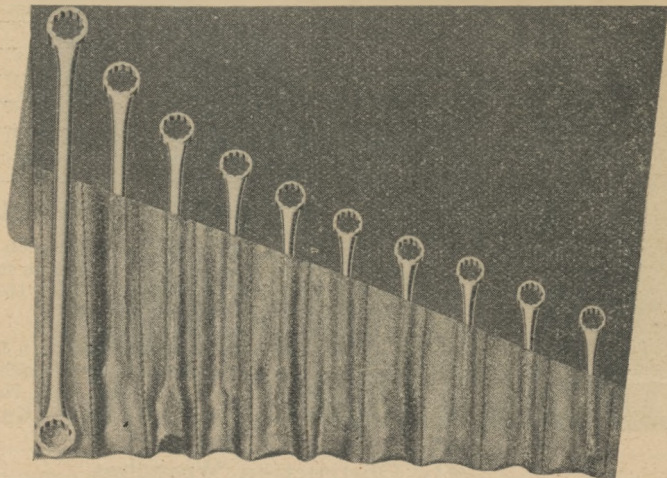
Wrench Number	Size Openings	Length Over-All	Price Each
S1214	$\frac{3}{8}$ " - $\frac{7}{16}$ "	4 $\frac{3}{4}$ "	\$0.65
S1416	$\frac{7}{16}$ " - $\frac{1}{2}$ "	5 "	.70
1416	$\frac{7}{16}$ " - $\frac{1}{2}$ "	6 "	.80
S1618	$\frac{1}{2}$ " - $\frac{9}{16}$ "	5 $\frac{1}{2}$ "	.85
1618	$\frac{1}{2}$ " - $\frac{9}{16}$ "	7 "	.90
S1820	$\frac{9}{16}$ " - $\frac{5}{8}$ "	6 $\frac{1}{2}$ "	.95
1820	$\frac{9}{16}$ " - $\frac{5}{8}$ "	8 $\frac{1}{2}$ "	1.00
2022	$\frac{5}{8}$ " - $\frac{11}{16}$ "	10 "	1.10
2024	$\frac{5}{8}$ " - $\frac{3}{4}$ "	12 "	1.15
2224	$\frac{11}{16}$ " - $\frac{3}{4}$ "	12 "	1.25
2425	$\frac{3}{4}$ " - $\frac{25}{32}$ "	12 $\frac{3}{4}$ "	1.40
2628	$\frac{13}{16}$ " - $\frac{7}{8}$ "	13 $\frac{1}{2}$ "	1.60
3034	$\frac{15}{16}$ " - $1\frac{1}{16}$ "	15 $\frac{1}{2}$ "	2.20
3236	1" - $1\frac{1}{8}$ "	17 "	2.30
3840	$1\frac{3}{16}$ " - $1\frac{1}{4}$ "	18 "	2.75

Postage and C. O. D. Charges are paid on all orders for \$3.50 or over.

## oTc Box Wrench Sets

The Box Wrench sets listed below are suggested because of their utility, the wide range of work they will handle and because there is no duplication of sizes. These sets have proven popular and we are passing these suggestions along to you in hopes that you will find the set suitable for your needs.

oTc Box Wrenches can be purchased singly or in any combination. Where sets are ordered, Kits are furnished free.



## No. 4 Set

S1214	$\frac{3}{8}$ - $\frac{7}{16}$ "	\$0.65
1618	$\frac{1}{2}$ - $\frac{9}{16}$ "	.90
2024	$\frac{5}{8}$ - $\frac{3}{4}$ "	1.15
2628	$\frac{13}{16}$ - $\frac{7}{8}$ "	1.60

No. 4 Set in Kit . . . . . 4.30

## No. 7 Set

S1214	$\frac{3}{8}$ - $\frac{7}{16}$ "	\$0.65
1618	$\frac{1}{2}$ - $\frac{9}{16}$ "	.90
2024	$\frac{5}{8}$ - $\frac{3}{4}$ "	1.15
2628	$\frac{13}{16}$ - $\frac{7}{8}$ "	1.60
3034	$\frac{15}{16}$ - $1\frac{1}{16}$ "	2.20
3236	$1\frac{1}{8}$ "	2.30
3840	$1\frac{3}{16}$ - $1\frac{1}{4}$ "	2.75

No. 7 Set in Kit . . . . . 11.55

## No. 5 Set

S1214	$\frac{7}{16}$ - $\frac{3}{8}$ "	\$0.65
1618	$\frac{1}{2}$ - $\frac{9}{16}$ "	.90
2022	$\frac{5}{8}$ - $\frac{11}{16}$ "	1.10
2425	$\frac{3}{4}$ - $\frac{25}{32}$ "	1.40
2628	$\frac{13}{16}$ - $\frac{7}{8}$ "	1.60

No. 5 Set in Kit . . . . . 5.65

## No. 8 Set

S1214	$\frac{7}{16}$ - $\frac{3}{8}$ "	\$0.65
1618	$\frac{1}{2}$ - $\frac{9}{16}$ "	.90
2022	$\frac{5}{8}$ - $\frac{11}{16}$ "	1.10
2425	$\frac{3}{4}$ - $\frac{25}{32}$ "	1.40
2628	$\frac{13}{16}$ - $\frac{7}{8}$ "	1.60
3034	$\frac{15}{16}$ - $1\frac{1}{16}$ "	2.20
3236	$1\frac{1}{8}$ "	2.30
3840	$1\frac{3}{16}$ - $1\frac{1}{4}$ "	2.75

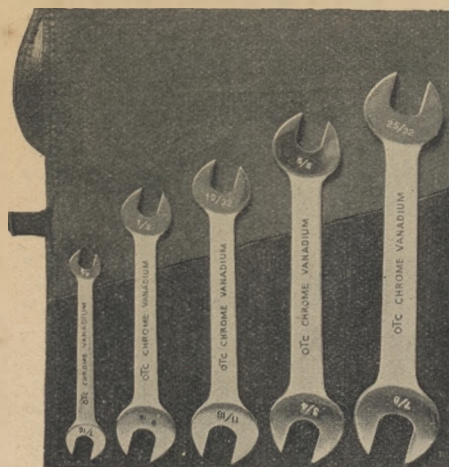
No. 8 Set in Kit . . . . . 12.90

The oTc trade mark is your guarantee of quality.



### oTc Open End Wrenches

oTc Open End Wrenches are made of a special analysis Chrome Vanadium steel and heat treated to give maximum strength and toughness. They are perfectly balanced, finely finished and designed with a view to cover a great variety of work. The thin jaws are pear shaped and milled with care in order to assure a perfect fit.



No.	Length	Size of Openings	Price Each
E1214	4 7/8"	3/8" - 7/16"	\$0.45
E1618	6 3/8"	1/2" - 9/16"	.55
E1922	7 3/8"	19/32" - 11/16"	.70
E2024	8 3/8"	5/8" - 3/4"	.75
E2528	9 3/8"	25/32" - 7/8"	1.15
E3032	10 3/4"	1 1/16" - 1"	1.70

### oTc Open End Wrench Sets

No. 5 Open End Wrench Set (as illustrated) consists of the following Wrenches: No. 1214, No. 1618, No. 1922, No. 2024, No. 2528. . . . . \$3.60

No. 6 Open End Wrench Set consists of the following Wrenches: No. 1214, No. 1618, No. 1922, No. 2024, No. 2528, and No. 3032 in Kit. . \$5.30

### oTc Obstruction Wrenches

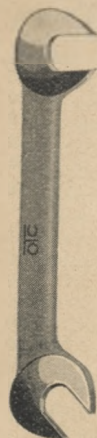
An open end wrench built to get into difficult places. Have same openings on both ends. One end is set at 90° and the other at 45° angle to the handle. Especially adapted for use on hydraulic brakes.

No.	Length	Size of Openings	Price Each
12	5 1/2"	3/8"	\$0.55
14	5 1/2"	7/16"	.60
16	6 1/2"	1/2"	.65
18	6 1/2"	9/16"	.70
20	7 1/2"	5/8"	.75
24	7 1/2"	3/4"	.85

Set of One Each of the Above Six Wrenches in Leatherette Kit.

Price . . . . . \$4.10

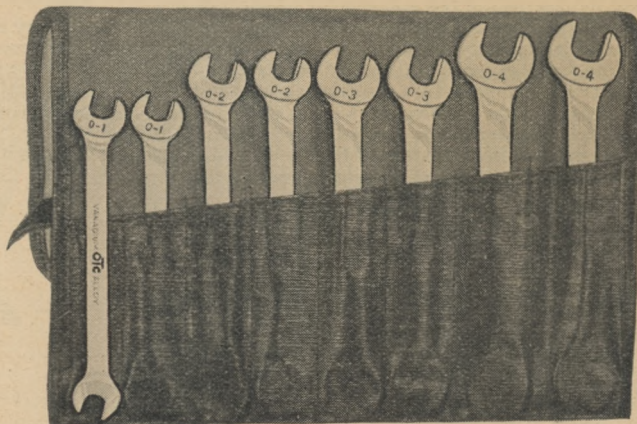
Refer to page 3 for Wrench Opening Sizes.



Transportation prepaid on either set anywhere in the United States.

### oTc Tappet Wrenches

A scientifically balanced tool that embodies every advanced feature in design and construction. Accurately milled to size and individually tempered, these wrenches will not spread under severe strain.



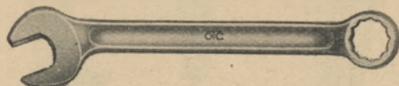
No.	Length	Size Opening	Price
O-1	7"	$1\frac{7}{32}'' - \frac{7}{16}''$	\$0.60
O-2	8"	$\frac{1}{2}'' - \frac{9}{16}''$	.65
O-3	8"	$\frac{5}{8}'' - 1\frac{1}{16}''$	.70
O-4	9"	$\frac{3}{4}'' - \frac{7}{8}''$	.80

No. 1 Set, two each O-1 & O-2 in kit. . . . . \$2.50

No. 2 Set, two each O-1, O-2, O-3 in kit. . . . . 3.90

No. 3 Set, two each O-1, O-2, O-3, O-4 in kit. . . . . 5.50

### oTc Combination Wrenches



An indispensable set that combines the utility and many advantages of the Box Wrenches with the accessibility and usefulness of the Open End Wrench.

Same size opening on each end. May be purchased singly or in Kit of four.

No.	Opening	Length	Price
C14	$\frac{1}{16}''$	5 "	\$0.65
C16	$\frac{1}{2}''$	$5\frac{1}{2}''$	.75
C18	$\frac{9}{16}''$	6 "	.85
C20	$\frac{5}{8}''$	$6\frac{1}{2}''$	1.00

No. 4 Combination Wrench Set in kit. . . . . \$3.25

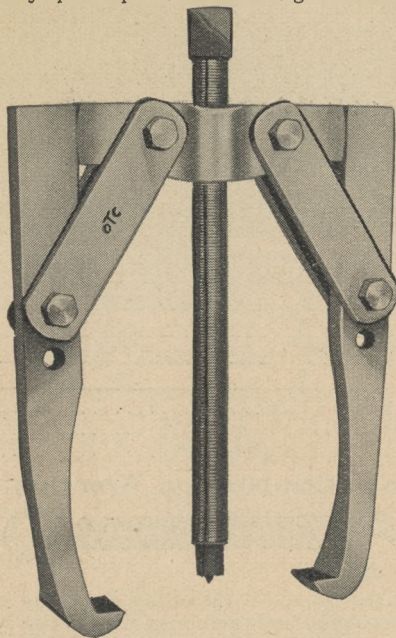
### oTc Gear Pullers

oTc Gear Pullers are recognized the entire country over as the ultimate in design, material and strength. The number of oTc Gear Pullers in actual use in the thousands of shops throughout the United States is ample proof of the high regard in which they are held by the men of the automotive repair industry.

Gear Pullers are necessities in every shop and it is essential that every shop have a good dependable Puller on which it can rely. The oTc Gear Puller combines all the outstanding features required in a tool of this kind.

Their patented gripping feature positively prevents the Jaws from slipping off the work. The Jaws are thin to allow working in close quarters and no adjustments are necessary, no extra equipment is needed to hold them in place.

The Nut, Screw and Jaws are forged from a very high grade of Chrome Vanadium Steel and heat treated by special process to insure great strength.



### oTc No. 3 Gear Puller

For work on cars, trucks, tractors, engines, heavy machinery, etc. Equipped with single end heavy duty jaws only.

This puller is built for very heavy duty and will pull gears that would tax the capacity of a 20 ton press.

Size of screw,  $\frac{3}{4}$ " diameter by 12" 1 ang. Spread of jaws, 12".

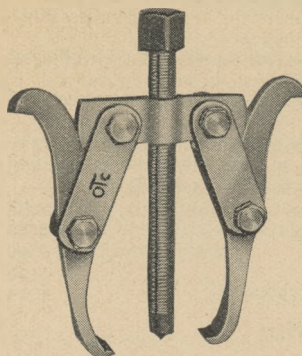
Length of jaw from block to hook, 9".

oTc No. 3, Gear Puller .....\$17.00

**oTc Gear Pullers are Cheapest in the long run**



## oTc No. 1 Gear Puller



Is particularly adapted to pulling generator gears, ball races, timing gears and small pinions. Equipped with one double end pair of jaws, having wide thin hooks on one end and narrow thick hooks on the other.

Size of screw,  $\frac{1}{2}$ " diameter by 6" long.

Spread of jaws, 0 to 6".

Length of jaw from block to hook,  $3\frac{1}{2}$ "

oTc No. 1, Gear Puller, as shown . . . . . \$6.00

## oTc No. 2 Gear Puller

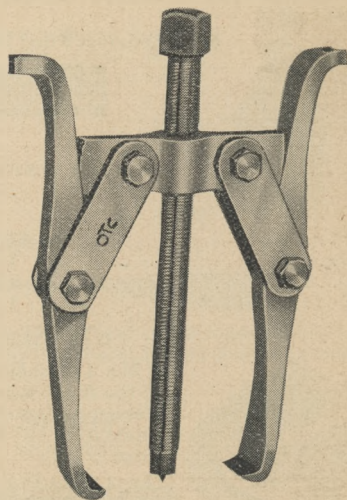
This is an "all purpose" tool and will handle a very wide range of work. The pulling arms are "reversible," one end having wide thin hooks to get behind gears in close quarters, the other end has slotted hooks for pulling gears which are tapped for cap screws.

Size of screw,  $\frac{5}{8}$ " diameter by 9" long.

Spread of jaws, 8".

Length of jaw from block to hook,  $5\frac{1}{2}$ ".

oTc No. 2 Gear Puller . . . . . \$12.00



We pay postage and C. O. D. charges on oTc Gear Pullers to any point in the United States.

## oTc Super Pilot Reamer



Seven blades cutting at an angle assure a smooth, shearing cut with no possibility of chatter.

The long, fixed pilot, is part of the reamer body and is carefully machined and ground, assuring perfect alignment.

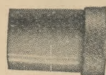
The double end taper guide, one end of which is recessed to permit end of blades to enter guide, permits of reaming both long and short bushings accurately, and in Piston Pin and King Bolt work reams both holes in perfect alignment.

$\frac{1}{2}''$ to $\frac{9}{16}''$ .....	\$5.60	$1\frac{3}{16}''$ to $\frac{7}{8}''$ .....	\$6.35
$\frac{9}{16}''$ to $\frac{5}{8}''$ .....	5.75	$\frac{7}{8}''$ to $1\frac{5}{16}''$ .....	6.50
$\frac{5}{8}''$ to $1\frac{1}{16}''$ .....	5.90	$1\frac{5}{16}''$ to $1''$ .....	7.00
$1\frac{1}{16}''$ to $\frac{3}{4}''$ .....	6.05	$1''$ to $1\frac{1}{16}''$ .....	7.50
$\frac{3}{4}''$ to $1\frac{3}{16}''$ .....	6.20	$1\frac{1}{16}''$ to $1\frac{1}{8}''$ .....	7.75

## oTc Extension Pilot Nut

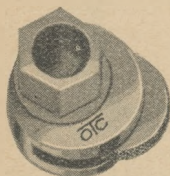
There are thousands of sets of Critchley Type Reamers in use thruout the country, the work of which can be very greatly improved, by use of the oTc Extension Pilot Nut. The Extension Pilot Nut is furnished with Taper Pilot Guide and retaining washer and can be adapted to practically any of the standard Critchley reamers in use today.

## 6" Extension Pilot Nuts to Fit Following Reamers:



A. ....	\$1.95	E. ....	\$1.95
B. ....	1.95	F. ....	2.05
C. ....	1.95	G. ....	2.15
D. ....	1.95	H. ....	2.25

## oTc Stud Bolt Wrenches



No. 1 Stud Bolt Wrench—Small and handy, but strongly built of the finest material, to stand severe use and give long service. Hexagon adaptor permits use of Box Wrench or Socket. Capacit. Studs from  $\frac{5}{16}''$  to  $\frac{1}{2}''$  diameter inclusive.

Price .....

No. 2 Stud Bolt Wrench—Similar in construction to No. 1 but larger and stronger to take Studs from  $\frac{1}{16}''$  to  $\frac{3}{4}''$  inclusive.

Price .....

Take advantage of our policy of paying postage on all "paid in advance" orders. Send check with your order.

## oTc Superloid Screw Drivers

The Bit is Heat treated to give strength and toughness. Will not twist or break under severe strain.

The entire shank is forged from a special analysis Vanadium Steel, is tempered to withstand twisting and will not bend.

The hexagon ferrule is upset-forged as an integral part of the shank and is accurate as to size in order that a Box Wrench may be used for additional power.

The Tang (in the Handle) is the same diameter as the shank—extends  $\frac{3}{4}$ " through the handle and two substantial forged wings prevent the Handle from turning on the shank.

The Handle is a lustrous Black Superloid, grooved and knurled to prevent the hand from slipping, it is possible to get a firm grip even though the hand may be greasy. oTc Superloid Handles are Shockproof and will resist pounding and abuse as no other Handle made.



Price, $\frac{9}{32}$ " Shank, 9" long over-all.....	\$1.25
Price, $\frac{1}{8}$ " Shank, 12" long over-all.....	1.50
Price, $\frac{1}{2}$ " Shank, 15" long over-all.....	1.90

## oTc Stubby Screw Driver

Shorter, tougher and better than ever. A Screw Driver built to get into tight places and to stand plenty of hard usage. Shock proof, indestructible, knurled handle that is large enough to afford a good grip.

Price.....\$1.00

## oTc Lamp Socket Screw Driver (Not Illustrated)

Price.....\$0.50



## oTc Screw Starter

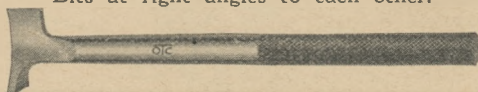


Tempered spring steel clip, holds screws rigidly in starting and is made so that it does not interfere in tightening screw. Screw driver shank forged from Chrome-Vanadium and heat treated. Substantial wood handle.

Price.....\$1.00

## oTc Offset Screw Drivers

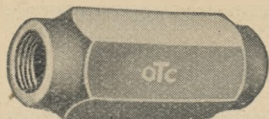
Bits at right angles to each other.



Price, $\frac{5}{16}$ " Stock, 3 $\frac{1}{2}$ " Long Over-all.....	\$0.45
Price, $\frac{3}{8}$ " Stock, 6" Long Over-all.....	.50
Price, $\frac{1}{2}$ " Stock, 8" long over-all.....	.90



## oTc Super Knock-Off Wheel Pullers



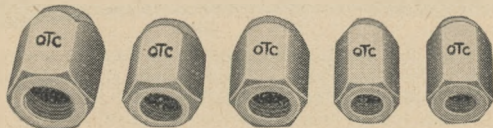
Properly used the oTc Knockoffs will do a quick, efficient job on 98% of all cars, without danger of damage to rear axle parts. Built from good solid Chrome Alloy Steel, and heat treated all the way through, these pullers will give exceptional service. They are fully tapped to the bottom, which eliminates the possibility of upsetting the axle or ruining the threads on the axle or in the puller.

Better results may be obtained by using these Knockoffs with the oTc Universal Wheel Puller illustrated on the opposite page.

Size	Length	Price
$\frac{5}{8}$ " SAE	$3\frac{1}{2}$ "	\$0.85
$\frac{3}{4}$ " SAE	$3\frac{1}{2}$ "	.95
$\frac{7}{8}$ " SAE	$3\frac{1}{2}$ "	1.05
1" SAE	$3\frac{1}{2}$ "	1.15
$1\frac{1}{8}$ " SAE	$3\frac{1}{2}$ "	1.25
$\frac{3}{4}$ " 20 thread	$3\frac{1}{2}$ "	1.00
$\frac{13}{16}$ " 16 thread	$3\frac{1}{2}$ "	1.00
$\frac{7}{8}$ " 18 thread	$3\frac{1}{2}$ "	1.25
$1\frac{1}{4}$ " USS	$2\frac{1}{2}$ "	2.00
$1\frac{1}{4}$ " SAE	$2\frac{1}{2}$ "	2.00
$1\frac{1}{2}$ " SAE	$2\frac{1}{2}$ "	2.50

## oTc Junior Knock Outs

For driving out steering arms, ball joints and bolts without injury to the threads. A very practical set. Same high quality as our larger wheel pullers.



$\frac{3}{8}$ " Knock Off Puller	\$0.45
$\frac{7}{16}$ " Knock Off Puller	.50
$\frac{1}{2}$ " Knock Off Puller	.55
$\frac{9}{16}$ " Knock Off Puller	.60
$\frac{5}{8}$ " Knock Off Puller	.65

The oTc Universal Wheel Puller and Universal Hub Puller will be shipped anywhere in the United States transportation prepaid.

### oTc Universal Wheel Puller



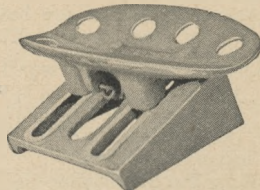
Pulls the tightest wheel on cars and trucks with ease and eliminates the danger of damaging the gears and bearing of the rear axle assembly.

The weight of the car operates the tool so that the rear wheels are forced away from each other and held there. This takes advantage of whatever slack or clearance there may be in the rear axle assembly and disen-



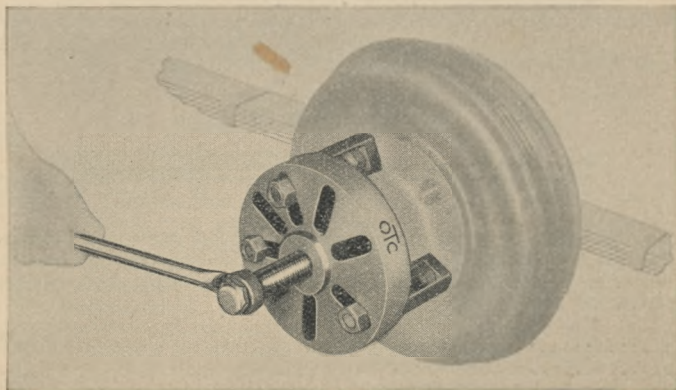
gages these parts so that pounding on the end of the axle cannot bring them together with the resultant chance for damage to the axle parts and does it with astonishing ease. A few light blows with a hammer loosens the tightest wheel.

Price.....\$5.00



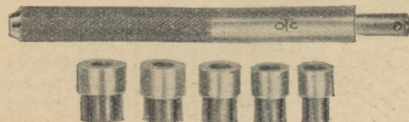
### oTc Universal Hub Puller

This tool is designed to fit a larger number of cars than any other similar tool on the market. When once you buy an oTc Hub Puller there is no necessity for buying additional equipment such as collets, rings, etc., to fit different model cars. This Puller can be used on any car regardless of the number of studs used to hold the wheel on.



No. 1 oTc Hub Puller (for Passenger Cars and Light Trucks).....\$15.00

## oTc Bushing Driver Set



The large variety of replaceable bushings used on Automobiles, Trucks, Tractors and Electrical Motors calls for a number of Bushing Tools that will remove the old Bushing quickly and install a new one without damage to the Bushing.

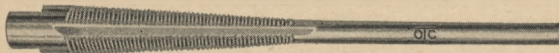
The Bushing Driver Set listed here is a real time saver. It consists of a complete range of sizes of Step Collars to handle Bushings on Tie Rods, Spindles, Water Pumps, Pistons, Connecting Rods, Generators, Steering Gears, Distributors, Transmissions, Spring Bushings, etc.

Step Collars and Drivers are built of Chrome Alloy Steel, machined to size and tempered to give long service. Compression ball on Driver holds Step Collar securely in place.

No. 1 SET, 5 Step Collars $\frac{1}{2}$ " to $\frac{3}{8}$ " inclusive with Driver .....	\$2.00
No. 2 SET, 6 Step Collars $\frac{13}{16}$ " to $1\frac{1}{4}$ " inclusive with Driver .....	3.40
No. 3 SET, 11 Step Collars $\frac{1}{2}$ " to $1\frac{1}{4}$ " inclusive with 2 Drivers .....	5.40
Box to fit any of above Sets .....	.60
Chevrolet King Pin Step Collar $\frac{23}{32}$ " — $\frac{23}{32}$ " .....	.25

## oTc Bushing Extractor

For use in driving out bronze bushings from  $\frac{1}{2}$ " to 1" inside diameter.



Price .....

\$2.00

## oTc Pick-Up Tool



A handy tool in any kit. Serves as a retriever of lost parts that have fallen into inaccessible places. Can be used as a screw starter for replacing and removing valve pins or horseshoe keepers, and has many other uses in a repair shop. Its usefulness far exceeds its low cost.

6" .....	\$0.60
8" .....	.70
10" .....	.80



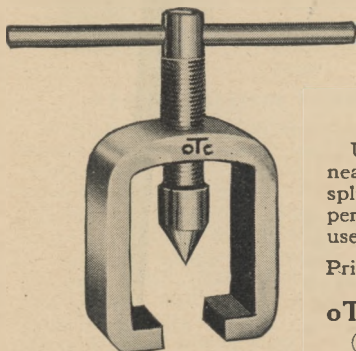
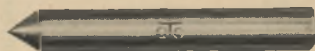
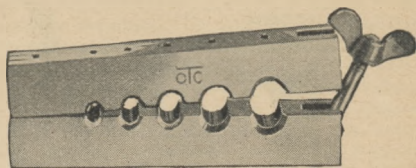
### oTc Pipe Swage

A practical and durable tool for swaging or flaring copper gas or oil lines. Clamps hold tubing firmly in place and eliminate the need for a vise. Sizes of tubes handled are as follows:  $\frac{1}{4}$ "— $\frac{5}{16}$ "— $\frac{3}{8}$ "— $\frac{7}{16}$ "— $\frac{1}{2}$ ".

This tool can also be used as a jig for drilling cotter key holes squarely through center of bolts or pins.

Price (without Punch).....\$2.00

Price (with Punch).....\$2.50



### oTc Pipe Flaring Clamp

Used with the oTc Pipe Swage this tool does a neat, even job. Eliminates the possibility of splitting the tubing and does a job that insures a perfect fit. No adjustments to make and can be used with almost any other swage block.

Price.....\$1.00

### oTc Dash Cutter

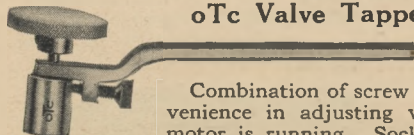
(Not Illustrated)

For cutting holes in metal dash—on automobiles, in installing hot water heaters, radios, etc. Requires drilling a  $\frac{1}{16}$ " hole in dash—the die placed one side of the dash, the punch on the other—the forcing screw passed thru both parts and the dash—when turned up cuts a perfect, smooth  $1\frac{1}{32}$ " round hole in dash. The die section is in two pieces, to facilitate removing the cut slug.

An outstanding tool—made of first quality material, and heat treated to give service.

Price.....\$3.50

### oTc Valve Tappet Adjusting Tool



Combination of screw driver and twelve point socket for convenience in adjusting valves on overhead valve motors—while motor is running. Socket detachable—uses oTc Junior Sockets ( $\frac{3}{8}$ " Sq. Adaptor).

Price complete with one Socket.....\$1.90

Additional Jr. Sockets  $\frac{9}{16}$ — $\frac{5}{8}$ ".....Each .40

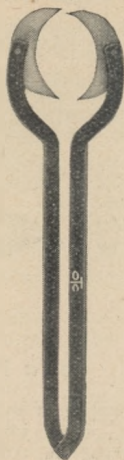
Enclose a money order with your order for tools and we will pay the postage.

## oTc Ring Groove Cleaner

oTc  
Carbon  
Scraper

Made from quality materials throughout. Note the sliding band which permits any degree of flexibility.

Price.....\$0.75



A universal tool—so built, that it will clean carbon from sides and bottoms of grooves of all standard widths, on pistons from  $2\frac{1}{16}$  to 4" in diameter.

Four cutting edges—all operating in the one groove—slight pressure on handle forces two edges to bear on upper and two on lower edge of groove.

Cutters heat treated and ground—will work and stay sharp indefinitely.

Price.....\$1.00

oTc  
Bendix Brake  
Adjusting Tool

Length over-all,  $\frac{3}{8} \times 7\frac{1}{2}$  inches. A perfect tool for adjustments on this type of brake.

Price.....\$0.70

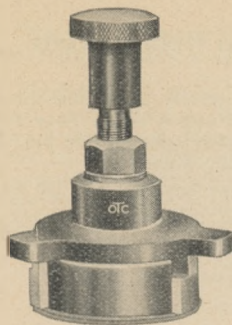
## oTc Universal Hub Cap Wrench

Made from quality materials, a combination of steel and heavy close woven fabric. It is adjustable and guaranteed to turn any hub cap on or off without marring cap in any manner.

Price.....\$1.25



### oTc Super Ridge Reamer

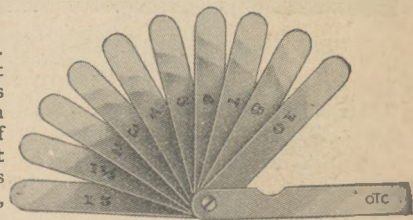


An expanding type tool, built to remove the ridge or unworn part at the top of cylinders, quickly and efficiently without scratching or scouring. It has three expanding cutters, the bottom portions of which, acting as guides, prevent removing too much metal. Guides follow cylinder wall and cutters will remove metal only where necessary to conform to the rest of the cylinder. To adjust—remove knob and turn the square adjusting screw to the right. Slight pressure on the knob when operating will hold the tool firmly in place and prevent chattering. As the unworn ridges are of different depth or width the operator should use care in order to stop cutting as soon as the ridge is gone. Taking heavy cuts or turning the tool backward should be avoided. A valuable tool and indispensable in motor reconditioning. Built for long service.

Price.....\$6.00

### oTc Thickness Gauge

A high grade tool of tested accuracy. Blades made from imported heat treated steel  $3\frac{1}{2}$ " long and with sizes etched on each blade. Equipped with knurled nut to permit rapid selection of blade desired and to lock other blades not in use firmly inside the handle. Contains 10 blades .002", .003", .004", .005", .006", .007", .008", .010", .012", .013"

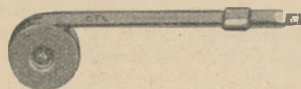


Price Ten Blades.....\$1.00

Extra Blades, Above sizes and .020." Each......15

### oTc Feeler Gauge Holder

A special tool for holding feeler gauge stock for adjusting valve tappets for fitting Pistons, etc. Holder magazine comes equipped with one 18" strip of feeler gauge stock. Refills for holder can be furnished by ordering size stock required. Furnished in the following sizes: .0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .013.



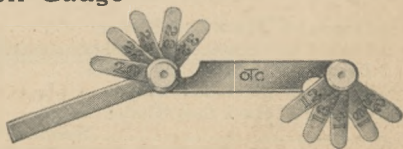
Holder and one 18" strip of feeler stock.....\$1.00

Refill 18" strip (above sizes)......40

Be sure and specify size of stock.

### oTc Ignition Gauge

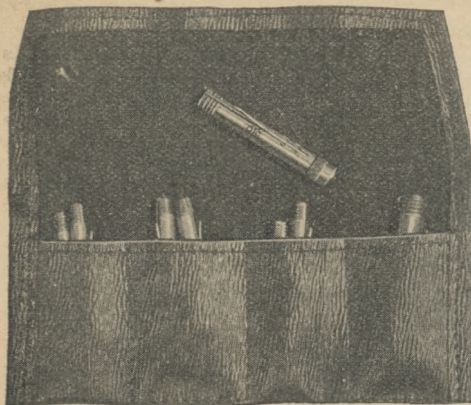
An extremely handy gauge for adjusting spark plugs, ignition and distributor points. Ten small, accurately ground blades—.012—.013—.014—.018—.020—.022—.025—.028—.032—.035 and a high grade 3" point file.



Price.....\$1.00

Extra Blades......15 Extra File......20





### oTc Pan Holder Studs

Real time savers. Screw one into each side of upper crank case to guide and hold crank case in place while replacing bolts.

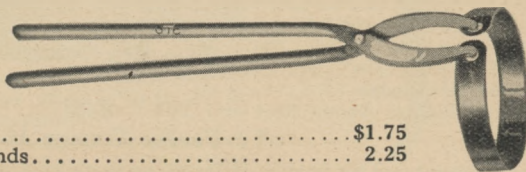
Price, Any Size, Set of 2 . . . . . \$0.50

Complete Set of 8 in Leatherette Kit . . . . . \$2.00

$\frac{1}{4}$ " USS,  $\frac{5}{16}$ " SAE,  $\frac{5}{16}$ " USS,  $\frac{3}{8}$ " USS.

### oTc Piston Ring Compressor

Has offset handle, which permits compressing piston rings from underneath the motor. Tongs forged from Chrome-Vanadium steel, band of polished strip steel.

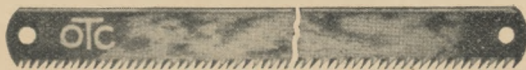


Price with one Band . . . . . \$1.75

Price Complete with Four Bands . . . . . 2.25

### oTc Hack Saw Blades

An exceptionally good blade for garage use. Double heat treated to give a hard tooth and flexible back, to avoid breaking or tearing out teeth. Made in 18-tooth for cast iron and mild steel, 24-tooth for steel and general purpose work and 32-tooth for tubing and sheet metal.



$\frac{1}{2}$ Dozen 10" Hack Saw Blades . . . . .	\$0.45
1 Dozen 10" Hack Saw Blades . . . . .	.80
3 Dozen 10" Hack Saw Blades . . . . .	2.30
$\frac{1}{2}$ Gross 10" Hack Saw Blades . . . . .	4.50
1 Gross 10" Hack Saw Blades . . . . .	8.50

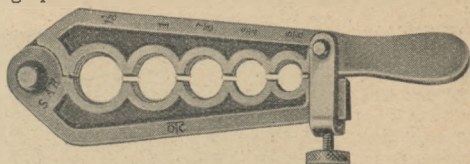
#### Special Assortment

3 Dozen 10" Hack Saw Blades in Box, one dozen 18-tooth, one dozen 24-tooth, one dozen 32-tooth. Price . . . . . \$2.30

## oTc Thread Chaser

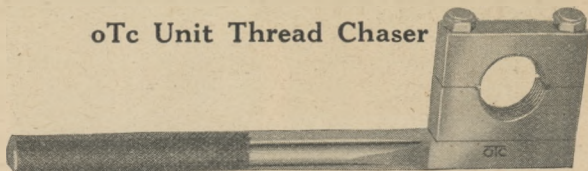
The best tool made for straightening up bruised or battered threads on axle-shafts, drive-shafts, bolts, studs, etc.

Drop-forged from high-grade steel, accurately machined and heat-treated. A time saver and built to give lifetime service. Re-conditions threads of the following sizes: SAE,  $\frac{5}{8}$ ",  $\frac{3}{4}$ ",  $\frac{7}{8}$ ", 1", 1 $\frac{1}{8}$ ".



Price .....\$5.00

## oTc Unit Thread Chaser



An extremely practical tool for straightening battered or deformed threads on axle shafts, drive shafts, cam shafts, etc. All dies are interchangeable on handle.

Die sizes:  $\frac{5}{8}$ ",  $\frac{3}{4}$ ",  $\frac{7}{8}$ ", 1", 1 $\frac{1}{8}$ ", 1 $\frac{1}{4}$ " SAE, 1 $\frac{1}{4}$ " USS,  $\frac{7}{8}$ -18 Thread for Hudson-Essex,  $\frac{13}{16}$ -16 Thread for late '32 Chevrolet,  $\frac{3}{4}$ -20 Thread for Terraplane, 1 $\frac{1}{2}$ " SAE International Truck.

Price, (One die complete with Handle) .....\$1.60  
Extra dies (without handle) ..... 1.00

## oTc Rivet Set Punches



Built for riveting Ring Gears, Cross Members in frames, Steering Brackets in frames, etc. Nine inches over all and heat treated to give long service.

$\frac{5}{16}$ " Rivet Set .....\$1.00  
 $\frac{3}{8}$ " Rivet Set ..... 1.00

## oTc Jimmy Bar

An ideal tool for use on motors. Pry bar on one end and long slim taper punch for assembling on other end, 18" long over-all. Forged from Chrome Vanadium steel and heat treated its entire length.

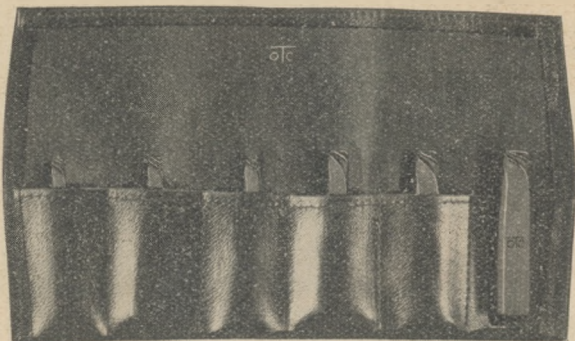


Price .....\$1.65

If your order is less than \$3.50 postage and C. O. D. charges are added. Order at least \$3.50 worth.

### oTc Screw Extractors

oTc Screw Extractors have been very successful. They are extremely tough and practically unbreakable. Made of Chrome-Vanadium, heat treated and guaranteed.



	No. 6	No. 5	No. 4	No. 3	No. 2	No. 1
Size No.	For Bolt Diameter		Use Drill Size		Drill Depth	
1	$\frac{5}{8}$ " & up		$\frac{1}{16}$ "		$\frac{5}{16}$ "	
2	$\frac{1}{2}$ " to $\frac{5}{8}$ "		$\frac{3}{8}$ "		$\frac{5}{16}$ "	
3	$\frac{1}{16}$ " to $\frac{1}{2}$ "		$\frac{5}{16}$ "		$\frac{1}{4}$ "	
4	$\frac{3}{8}$ " to $\frac{1}{16}$ " Alemite Size		$\frac{1}{4}$ "		$\frac{1}{4}$ "	
5	$\frac{5}{16}$ " to $\frac{3}{8}$ "		$\frac{3}{16}$ "		$\frac{3}{16}$ "	
6	$\frac{1}{4}$ " to $\frac{5}{16}$ "		$\frac{5}{32}$ "		$\frac{3}{16}$ "	

Price Each ..... \$0.50  
 Four Sizes in Leatherette Roll ..... 2.00  
 Six Sizes in Leatherette Roll ..... 3.00

### oTc Tie Rod Sockets

For adjusting tie rod, drag link and shock absorber screws. Polished steel finish.

Width of Bit

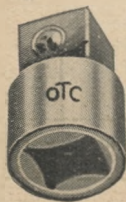
$\frac{3}{4}$ "  
 $\frac{15}{16}$ "  
 $\frac{15}{16}$ "

Adaptor Opening

$\frac{3}{8}$ " Sq.  
 $\frac{1}{2}$ " Sq.  
 $\frac{1}{2}$ " Sq.

Price

\$0.50  
 .75  
 .75



### oTc Heavy Duty Socket Adaptors

Polished Steel Finish.

$\frac{3}{4}$ " Sq. Female to  $\frac{5}{8}$ " Sq. Male ..... \$1.00  
 $\frac{5}{8}$ " Sq. Female to  $\frac{3}{4}$ " Sq. Male ..... 1.00  
 $\frac{3}{4}$ " Sq. Male to  $\frac{5}{8}$ " Sq. Male ..... .75



## oTc Bearing Splitter

(Patent applied for)

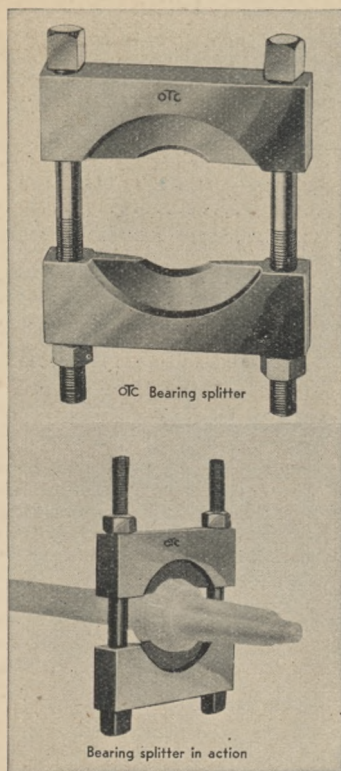
For separating and removing Double Timken Bearing on Axle Shafts of Chrysler, Dodge, DeSoto, Nash, Plymouth, Erskine, Rockne, and others, efficiently and easily. Can also be used on 1932, 1933 Packards and on Stewart Trucks to take the bearings off the Drive Shaft Pinion.

The sharp edges of the tool are forced between and separate the Bearings when forcing Screws are turned. The Bearings can then be removed from Axle Shaft with an Arbor Press or an oTc Gear Puller.

This tool eliminates the necessity for breaking one Bearing in order to remove the other. Both of these expensive Bearings can be removed without damage and the tool will pay for itself in Bearings saved in two or three jobs. A valuable and indispensable tool on isolated jobs where parts and service cannot readily be reached. The breaking or damaging of one bearing might necessitate the laying up of valuable equipment until a new part can be obtained from a distant city.

oTc Bearing Splitters separate and remove these bearings and eliminate the danger of a forced layoff that would cost many times the price of the tool.

Built of the finest material and heat treated to give service.



Price—No. 2 Bearing Splitter, capacity Bearings up to  $4\frac{1}{4}$ " outside diameter. \$9.25  
Price—No. 3 Bearing Splitter, capacity Bearings up to  $5\frac{3}{4}$ " outside diameter. \$15.00

**Transportation on oTc Bearing Splitters  
prepaid to any point in the United States**

## oTc Multi-Purpose Puller

(Patent applied for)

oTc has succeeded in designing a Universal Tool for pulling Drive Shafts, Axles, Cam Shafts, Pinion Shafts and Transmission Shafts, and which can with its various Attachments, be adapted for use on a great many jobs, a few of which are illustrated on the opposite page. Because it handles this work on practically every make of car and truck it is an essential piece of equipment for every service shop. Adjustable legs, detachable adaptors and attachments permit of quick easy operation on a wide variety of heretofore difficult jobs.

Furnished complete with six adaptors:  $\frac{5}{8}$ ",  $\frac{3}{4}$ ",  $\frac{7}{8}$ ", 1",  $1\frac{1}{8}$ ",  $1\frac{1}{4}$ " S. A. E.  
 Price, Multi-purpose Puller with six adaptors.....\$11.00  
 Box.....\$1.50

### Extra Adaptors

$\frac{5}{8}$ " SAE.....	\$0.40	$1\frac{1}{4}$ " USS.....	\$0.60
$\frac{3}{4}$ " SAE.....	.40	$1\frac{1}{2}$ " SAE.....	.75
$\frac{7}{8}$ " SAE.....	.50	$1\frac{1}{2}$ " USS.....	.75
1" SAE.....	.50	$\frac{3}{4}$ " 20 Terraplane.....	.50
$1\frac{1}{8}$ " SAE.....	.60	$\frac{13}{16}$ "-16, Late 32 Chev.....	.50
$1\frac{1}{4}$ " SAE.....	.60	$\frac{7}{8}$ "-18, Hudson-Essex.....	.60

## oTc Universal Timken Cup Puller

(Patent applied for)

Designed to assure a positive grip without slipping, the jaws of the tool conform to the curves of the Timken Cups they are to pull. It can be adapted for use on many other inside pulling jobs. The jaws may also be reversed and used as a Gear Puller or Bearing Puller. Pulls all Timken Cups from Axle Housings in Chevrolet, Dodge, Plymouth, Chrysler, De Soto, Nash, Hupmobile and many other makes of cars and trucks. Capacity Timken Cups— $1\frac{3}{4}$ " to  $4\frac{3}{4}$ " inside diameter.

Price equipped with 7" Jaws.....\$9.75

Extra length Jaws may be obtained for use on Timken Cups placed deep in Axle Shaft Housing on International, Stewart, White, Dodge  $2\frac{1}{2}$  ton and other trucks.

Price equipped with long jaws.....\$10.75

## Pinion Shaft Puller Attachment

Used in connection with the oTc Multi-Purpose Puller, this attachment simplifies one of the most difficult jobs on Chevrolet, Pontiac, etc. This tool removes the Drive Shaft from housing without disassembling Drive Shaft.

Price.....\$5.00

## oTc Timing Gear Puller Attachment

This useful attachment is used with the oTc Multi-Purpose Puller to pull Timing Gears, Cam Gears, Fan Pulleys, Balancers, Hudson-Essex main bearings, etc.

A slotted block equipped with two  $\frac{3}{8}$ " USS Heat Treated Cap Screws. Other size Cap Screws may be substituted at will.

Price (with Cap Screws).....\$2.50

## Valve Guide Attachment

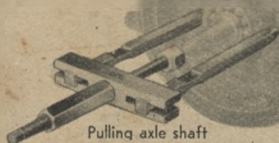
This attachment for the oTc Multipurpose Puller increases its popularity in up-to-date shops. It removes old worn valve guides and replaces the new guide without difficulty.

Price.....\$1.25



# OTC MULTI-PURPOSE PULLER

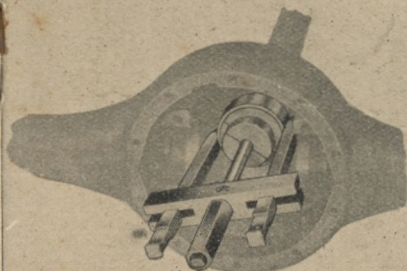
## AND ATTACHMENTS



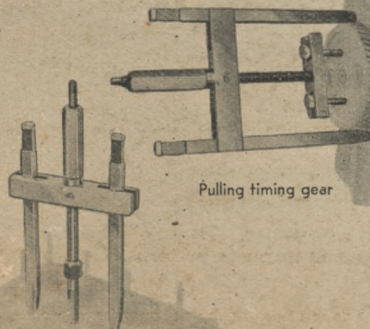
Pulling axle shaft



Pulling Timken bearing cup



Pulling Chev. pinion shaft

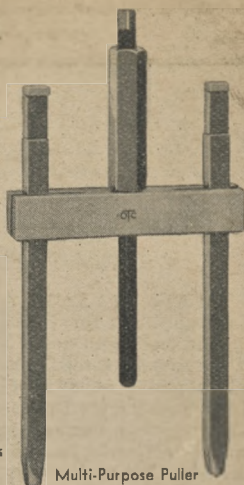


Pulling timing gear

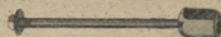
Pulling valve guide



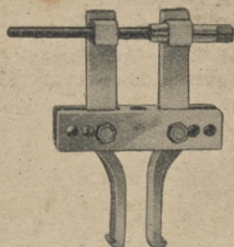
Threaded adaptors



Multi-Purpose Puller



Valve guide attachment



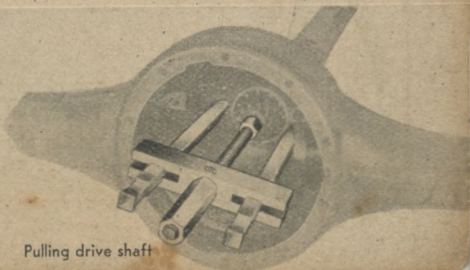
Timken bearing cup  
puller attachment



Pinion shaft puller  
attachment



Timing gear puller attachment



Pulling drive shaft



## oTc Gear Puller Attachments

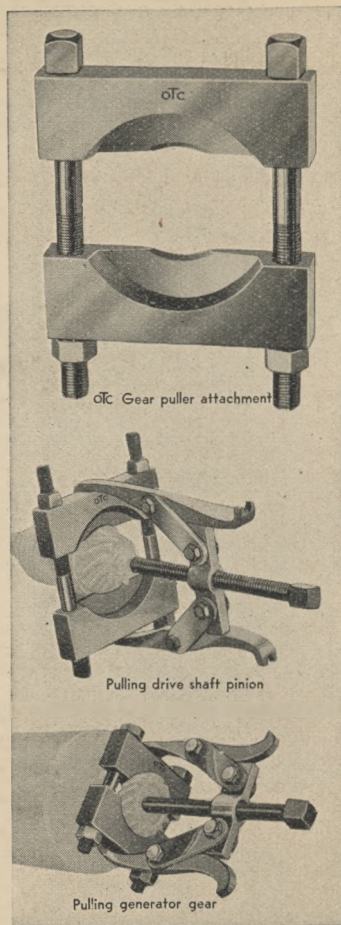
(Patent applied for)

The oTc Gear Puller Attachment is essential equipment for the shop that takes pride in good work well done. The thin sharp edges of the tool are forced behind the work where it is impossible, because of lack of space, to get a grip with a Gear Puller. When the tool is in position it is a simple matter to place it in a press or attach a Gear Puller and complete the job. This tool is built particularly to pull Gears, Pinions, Races, Bearings, Collars, etc. Made of high grade, high test material and heat treated to give great strength and toughness. Highly polished steel finish.

Price—No. 1 Gear Puller Attachment — capacity up to  $2\frac{1}{4}$ " outside diameter . . . \$3.50

Price—No. 2 Gear Puller Attachment — capacity up to  $4\frac{1}{4}$ " outside diameter . . . \$9.25

Price—No. 3 Gear Puller Attachment — capacity up to  $5\frac{3}{4}$ " outside diameter . . . \$15.00



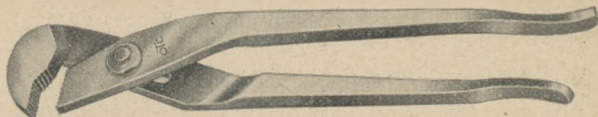
## oTc Scrolsnip

This Snip is a very handy tool in any garage. Especially adapted for cutting irregular shapes, scrolls and intricate patterns. Circular cutting is made easy with this tool.

Price . . . . . \$2.00

### **oTc Powergrip Plier**

A Plier that combines all the power and gripping strength of a Stud Puller with the utility and usefulness of an Offset Slip Joint Plier. A wide range of adjustments allow it to handle a large variety of Nuts, Bolts, Studs, Rods, etc. Truly an all purpose Plier. A remarkable tool built for long "uninterrupted service".



10" oTc Powergrip Plier ..... \$2.50

### **oTc Super Side Cutter**



A Side Cutter—designed by mechanics, built by mechanics for mechanics use.

Jaws shaped and offset to get into close quarters. Handles shaped to give great leverage, without tiring the hands.

Tremendous cutting power, with large rivet close to the cutting edge. Handles lapped, so as to overcome the twisting strain in pulling cotter keys.

Made from a special analysis steel heat treated to give great hardness on cutting edge— with maximum toughness in handles and eye to resist breaking.

Truly a Super Side Cutter.

Price ..... \$1.85

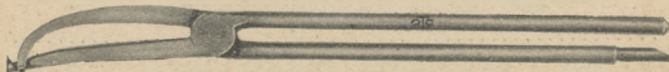
### **oTc Battery Plier**



Especially designed for use on Battery and terminal nuts. Thin, pointed jaws, set at 30° angle, permit working in close quarters. Will not injure or break battery cover. Forged from High Grade Material and Heat Treated to give service.

Price ..... \$1.25

### **oTc Brake Spring Plier**



A tool that makes play out of removing and replacing brake springs.

One end of handle machined to facilitate replacing springs.

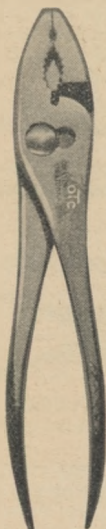
Hand forged from high grade Alloy Steel and heat treated.

Price ..... \$2.00

oTc Long Nose  
Plier

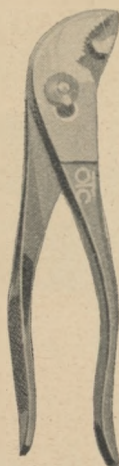
Long Nose Pliers, indispensable for use on valve pins, cotter pins, etc. Has small groove in jaws for holding pins securely. Made in both straight and bent nose.

Long Nose Pliers...\$1.50  
Bent Nose Pliers.. 1.50

oTc 10" Slip Joint  
Pliers

A heavy duty Plier that should be in every tool kit. Two adjustments allow a wide range of use and sturdy construction assures long service.

Price.....\$1.50

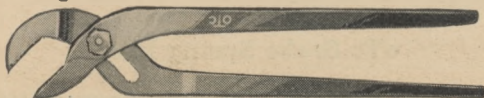
oTc Parrot Head  
Plier

The leverage feature embodied in this tool gives it gripping power sufficient to twist off good sized Bolts, turn Brake Rods and do other jobs that only a good Plier will do. A handy tool in close, hard - to - get - at places.

Price.....\$1.50

## oTc Water Pump Plier

A plier that eliminates the need for a whole set of Pump Nut Wrenches. An indispensable tool in every mechanic's kit. A powerful, well built Plier that carries a wide range of jaw adjustments for handling all standard sizes of Packing Nuts, and which can be used for general all-around work.



Price—9".....\$1.50

## oTc Midget Ignition Plier

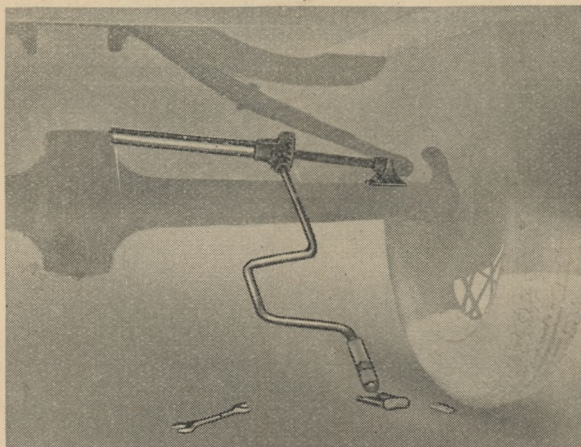
Same design as Pump Nut Plier, but  $4\frac{1}{2}$ " long. Used for ignition work and exceptionally handy for this purpose. A sturdy little tool that practically takes the place of a complete Ignition Wrench Set.

Price .....\$1.00



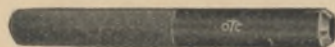
## FORD SECTION

### oTc Ford Spring Spreader



A very speedy tool for removing and installing springs on all Ford Models. Illustration shows tool in use on Model A Rear Spring. Attachments are included that adapt this tool to front springs on all models and rear spring on V8 and B4.  
 Price.....\$11.75

### oTc Ford Hub Bolt Punches



For upsetting the shoulder on all model Ford Hub Bolts. Made in two styles:—The starter punch to do the preliminary upsetting, and the finishing punch to complete the job.

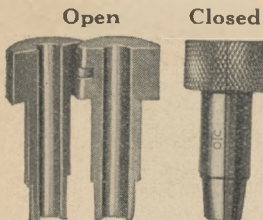
Car Starter Punch.....	\$1.00
Car Finishing Punch.....	.75
Truck Starter Punch.....	1.25
Truck Finishing Punch.....	1.00

### oTc Ford Piston Pin Inserter



A perfect tool for removing or replacing piston pins. Operation: Unscrew pilot end from handle, slip pin on shoulder of handle and screw pilot into handle, turning up tight. Pilot expands locking ring evenly. Made of Alloy Steel and heat treated to give maximum service. An absolute necessity in every Ford Service Station. ▶

Price Model A.....	\$2.00
Price V-8.....	1.85



### oTc Model A Ford False Valve Guide

A time saver on valve work. It lifts out with the valve as it is not put in from the bottom as the regular guides are. The two halves are hinged together which permits faster operation and prevents the loss or misplacing of parts. Accurately made and guaranteed to do the job. Works on Model B4 also.

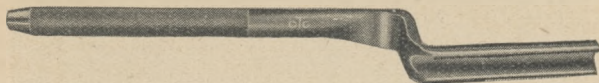
Price.....\$1.25

### oTc Model V8 False Valve Guide

Same construction and design as the Model A False Guide but made to fit the V8 Ford. Accurately machined to guide valve perfectly in grinding. Guide goes into block from the top, and remains on the valve stem when lifted out for inspection. Works on All V8 models.

Price.....\$1.25

### oTc Ford Valve Guide Punches



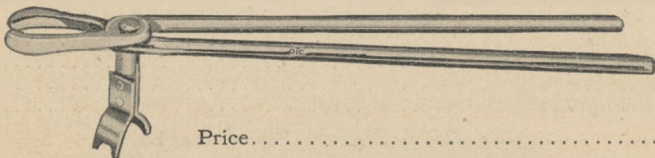
The oTc Ford Valve Guide Punches have proven to be the most practical tools of their kind on the market. Of rugged construction, simple design and easily operated they will do the job with a minimum of time and effort.

Model A and B 4 Valve Guide Punch.....\$1.00

Model V8 Valve Guide Punch......90

### oTc Ford Valve Spring Compressor

The fastest tool made for this job. Saves your fingers and your time, speeds up this job and helps you beat "Flat Rate". Works on Models A and B4.



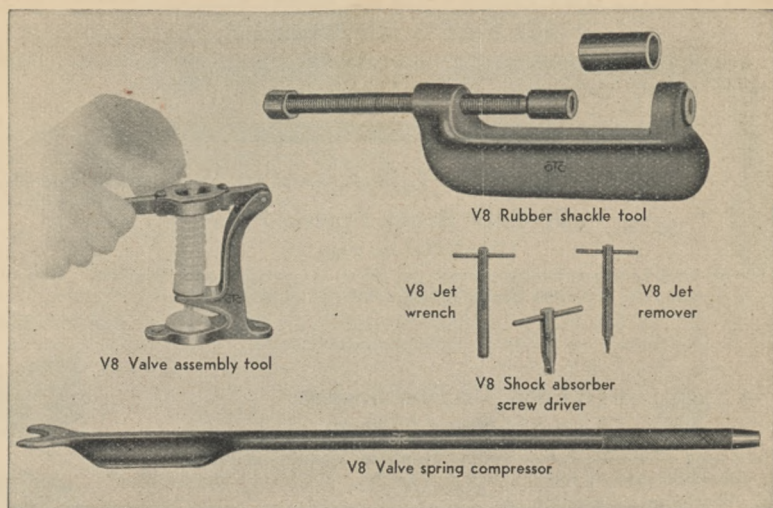
Price.....\$2.00

### oTc Ford Tie Rod Adjusting Tool

The two bits, at right angles to each other, permit quick adjustment on Tie Rods on all Ford Models. Also for shock absorber adjustments on Model A.



Price.....\$0.90



V8 Valve assembly tool

V8 Rubber shackle tool

V8 Jet  
wrenchV8 Jet  
removerV8 Shock absorber  
screw driver

V8 Valve spring compressor

### **oTc V8 Valve Spring Compressor**

Built to compress Valve spring in order to remove valve keeper and also to remove valve guide lock. 21 1/4" long to permit plenty of leverage and works on all V8 Fords, including '34. Price.....\$1.50

### **oTc Ford V8 Valve Assembly Tool**

Compresses the Valve Spring to allow replacing the Valve Keeper and does the job quickly and easily.

Price.....\$3.50

### **oTc Ford V8 Rubber Shackle Tool**

A fast tool for removing and replacing the new Rubber Shackles used in V8 Fords. Price.....\$5.50

### **oTc V8 Dual Carburetor Jet Wrench**

Takes the main metering Jet on the 1934 V8 type "EEL" Ford Duplex Down Draft Carburetor, and does the job perfectly. Price.....\$0.90

### **oTc V8 Ford Jet Remover**

The oTc Jet Remover extracts the broken portion of the main discharge Jet on the "EEL" type Duplex Downdraft Carburetor on 1934 V8 Fords. Also works perfectly on the low speed Jets on Carter Carburetors (excepting Down Draft) Price.....\$0.80

### **oTc V8 Shock Absorber Screw Driver**

For cross slotted brass adjusting screws on late type shock absorbers. Price.....\$0.75



### oTc Ford Brake Wrench

Square opening on one end and 8 point on the other to service both car and truck. A tough wrench for a tough job. Works on all models.



Price.....\$1.35

### oTc Ford Brake Spring Plier

(Illustrated on page 35)

Removes and replaces brake springs on Ford in one simple operation. One end hooks in spring, the other in brake lining. Works on all models.

Price.....\$2.00

### oTc Ford Tie Rod Socket

$\frac{3}{8}$ " Square Adaptor

When used with oTc Junior Socket Handles, it makes adjustments on shock absorbers and tie rod quickly and easily.  $\frac{3}{4}$ " bit. Polished steel finish. Works on all models.

Price.....\$0.50



### oTc Ford Pan Speeder

A combination of oTc Junior One Hand Speeder and Junior  $\frac{1}{2}$ " Socket makes the ideal Oil Pan Speeder for Models A and B4.

Price, Complete.....\$1.65

### oTc Ford Offset Bushing Punch

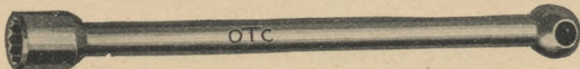
Offset to drive bushings out of rear spring perch. Works equally well on bushings in spring and front perch.

Price.....\$1.00

### oTc Ford Connecting Rod Wrench

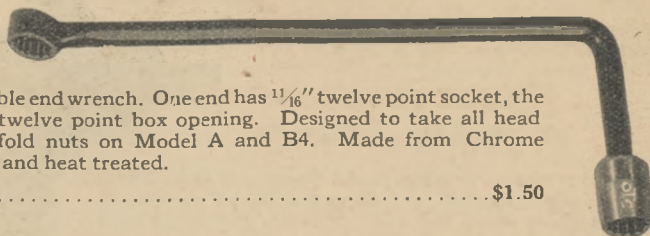
Socket Size  $2\frac{1}{32}$ "

Works also on B4



Price.....\$1.00

It's Thrifty to Buy oTc Quality.

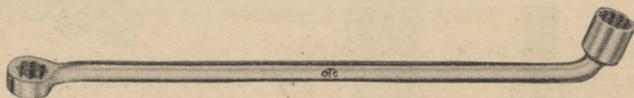
**oTc Ford Head Bolt Wrench**

A special double end wrench. One end has  $1\frac{1}{16}$ " twelve point socket, the other end  $1\frac{1}{16}$ " twelve point box opening. Designed to take all head bolts and manifold nuts on Model A and B4. Made from Chrome Vanadium Steel and heat treated.

Price.....\$1.50

**oTc Ford Main Bearing Wrench**

This wrench has  $\frac{9}{16}$ " eight point box opening on one end and  $\frac{3}{4}$ " twelve point fixed socket on the other. Take all main bearing bolts on both car and truck of Model A, Model T and B4.



Price.....\$2.00

**oTc Ford Main Bearing Nut Holder**

A set of 4 of these tools holds all the main bearing nuts and makes a one man job out of Ford main bearing work. A real time saver that helps you beat "Flat Rate Time." Works also on B4.

Price, Each.....\$0.50

Price, Set of 4.....2.00

**oTc V8 Main Bearing Bolt Holder**

V8 Main Bearing Bolts, set into recesses in the block and are difficult to get at and hold. The tool consisting of two extra length  $\frac{9}{16}$ "-8 Point Sockets, with handle, does the job easily.

Price less 2-8 Point Sockets.....\$1.50

Price with Sockets.....2.50

**oTc Ford Connecting Rod Socket**

$\frac{1}{2}$ " Square Adaptor Opening

Price (Size  $2\frac{1}{32}$ ").....\$0.60

**oTc V8 Connecting Rod Socket**

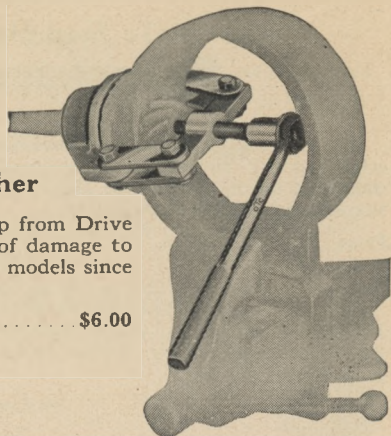
A short, extremely thin  $\frac{9}{16}$ " Socket with  $\frac{1}{2}$ " Sq. Adaptor opening, and its use must be limited to this job.

Price.....\$0.50

### oTc Ford Drive Shaft Pusher

Removes pinion, bearings and bearing cup from Drive Shaft in one operation with no possibility of damage to parts or Drive Shaft Housing. Handles all models since Model T.

Price ..... \$6.00

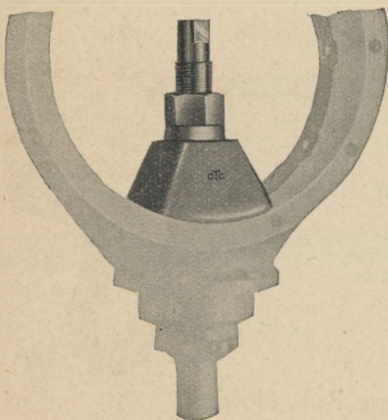


### oTc Ford Drive Shaft Puller

Pulls the drive shaft assembly into place quickly and easily.

This job cannot be done in the press which makes this tool a necessity in every Ford shop. Works on all models.

Price ..... \$2.50

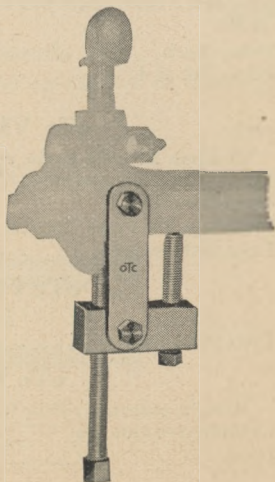


### oTc Ford King Pin Remover

The illustration shows the application of this tool to the job. Pulls the tightest king pins. Works on all models.

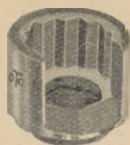
Price, Car Size ..... \$5.00

Price, Truck Size ..... 7.50



oTc Prices are "delivered" prices on all orders of \$3.50 or over.





### oTc Ford Fan Pulley Socket

Works on all models—slotted to work on V40, where cross member interferes in using conventional type of socket. Absolutely essential on late models, where it is necessary to loosen fan pulley nut to permit dropping pan.

Price.....\$1.75

### oTc Head Light Adjusting Wrench

Does a particularly tough job on 1933 Models with curved fender. 12 point opening, slotted to permit light wires to pass. Long handle to permit working from outside of fender.

Also works on late Essex & Hudson.

Price.....\$2.00

### oTc V8 Filler Plug Wrench

A double end Box Wrench to take all  $\frac{1}{16}$ " square or hexagon filler plugs on late model shock absorbers. Absolutely essential where rear shock absorber sets in frame channel.

Price.....\$1.60

### oTc Model A Distributor Bushing Driver

For removing and replacing worn distributor bushings on A & B4.

Price.....\$0.75

### oTc V8 Spanner Wrench

For adjusting generator on V8—also fits Model A Water-Pump Nut. Hand forged from Alloy Steel and heat treated.

Price.....\$0.60

### oTc V8 Manifold Wrench

A double end twelve point Box Wrench—both ends bent and offset to get at the  $\frac{9}{16}$ " manifold nuts on V8 Manifold. A real tool for a mighty tough job.

Price.....\$1.40

Note:—oTc Chevrolet Manifold Wrench (Page 50) takes  $\frac{5}{8}$ " V8 Manifold Nuts.

Price.....\$0.75

### oTc Ford Baffle Plate Wrench

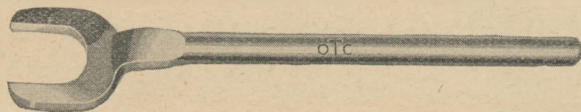
This  $\frac{9}{16}$ "-12 Point fixed Socket on L Handle takes nuts on Ford front wheel baffle plate. Works on all Ford Models.

Price.....\$0.75

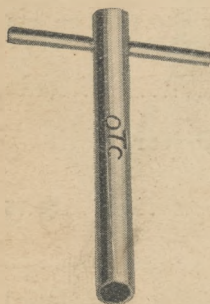
### oTc Ford Cam Nut Wrench

A real time saver and one that every garage doing Model A work should have.

Will do the job without removing radiator and timing gear cover. Remove crank case, fit wrench on cam nut, turn motor with crank. Often that annoying knock in the front end of motor is caused by this nut coming loose. Works also on B4.



Price.....\$2.00



### oTc Ford Carburetor Jet Wrench

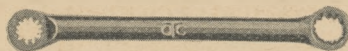
The handiest tool made for servicing Ford carburetors. Speeds up the work and saves a lot of time.

Has two socket openings to take care of both low and high speed jets. Does a perfect Job. Works also on B4.

Price.....\$1.00

### oTc Ford Carburetor Box Wrench

$\frac{13}{32}$ " and  $\frac{7}{16}$ " opening. A perfect wrench for the adjusting valve housing on side of all Model A Carburetors. Works also on B4.



Price.....\$0.65

You pay only the amount of your order if you buy \$3.50 or over.

## CHEVROLET SECTION

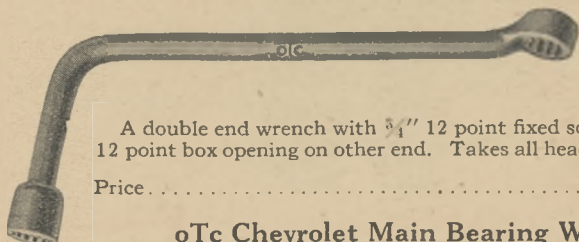
### oTc Chevrolet Rear Axle Punch

Drives out stub of broken axles from differential assembly. Works thru inspection plate and makes the removal of the opposite wheel and axle unnecessary. Truly a wonderful time saver.



Price.....\$1.25

### oTc Chevrolet H. B. Wrench

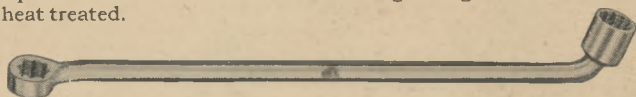


A double end wrench with  $\frac{3}{4}$ " 12 point fixed socket on one end and  $\frac{3}{4}$ " 12 point box opening on other end. Takes all head bolts on Chevrolet.

Price.....\$1.50

### oTc Chevrolet Main Bearing Wrench

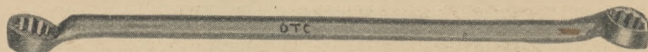
A double end offset wrench with  $\frac{5}{8}$ " 12 point box opening for rear and center main and  $\frac{3}{4}$ " 12 point fixed socket for front main bearing. Forged from Chrome Vanadium Steel and heat treated.



Price.....\$2.00

### oTc Chevrolet 4 Main Bearing Wrench

oTc Box Wrench No. 2628 Long is the perfect Chevrolet Four Main Bearing Wrench. Size of openings  $\frac{13}{16}$ " and  $\frac{1}{8}$ ".



Price.....\$1.60

### oTc Chevrolet Starter & Manifold Wrench

Has  $\frac{5}{8}$ "- 12 Point Box Opening for Starter Nuts and  $\frac{9}{16}$ "-12 Point Box Opening for manifold nuts. Both ends bent to handle these tough jobs perfectly.

Price.....\$1.35

### oTc Chevrolet Thickness Gauge

A gauge built of imported heat treated steel and rigidly tested for accuracy. Designed particularly for work on Chevrolet. Contains the following sizes: Three .006 blades, two .008 blades, two .013 blades, one each .018, .024 and .032.

Price.....\$1.00

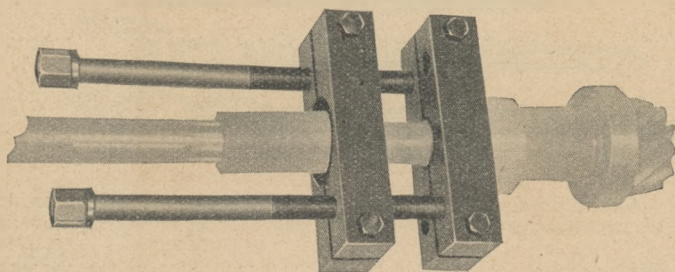
We do not add the postage and C. O. D. charges to your order if you buy \$3.50 or more.



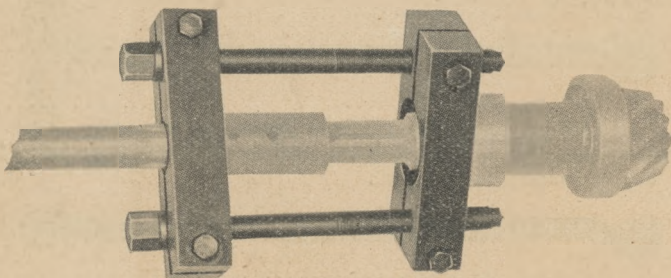
### oTc Chevrolet Drive Shaft Assembly Tool

This husky tool is indispensable to the Chevrolet mechanic, on drive shaft work. Its use permits quick repair without possibility of bending the drive shaft, or injuring the bearing parts.

Illustrations show operation.



The illustration above shows the method employed in removing the Pinion Shaft from the Drive Shaft Sleeve to permit replacement or repairs.



The above illustration shows the tool in position to reassemble the Drive-Shaft, pulling the splined pinion-shaft into the drive-shaft sleeve.

The Chevrolet Drive Shaft Assembly Tool is very sturdily built, from high-grade alloy steel and all parts are heat-treated to withstand severe strain. The tool complete weighs 10 pounds.

Price.....\$14.00

Transportation charges are prepaid on the oTc Chevrolet Drive Shaft Assembly Tool.

**oTc Chevrolet Carburetor Bowl Nut Wrench**

$\frac{3}{4}$ " twelve point opening, bent to remove nut on bottom of carburetor bowl without removing carburetor. Carburetor can be cleaned in five minutes with this tool. Fits all model Chevrolets and many other carburetors with  $\frac{3}{4}$ " bowl nut.



Price.....\$0.90

**oTc Chevrolet 6 Water Pump Nut Wrench**

A perfect tool for the job and backed by the oTc guarantee.



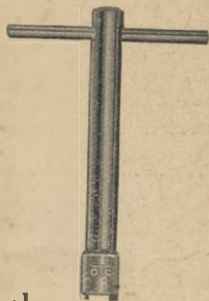
Price.....\$0.90

**oTc Chevrolet Carburetor Jet Wrench**

This tool adjusts both the multiple jet nozzle and the needle seat on all Carter Carburetors, which is used on several makes of cars.

Made of Chrome Vanadium Steel and heat treated. Polished steel finish.

Price.....\$0.85

**oTc Chevrolet Drive Shaft Lock Tool**

A real time saver for installing Chevrolet Drive Shaft. Spring Steel fingers are passed thru ball race and hold lock ring in place, while adjusting set screws.

Price.....\$1.25

**oTc Chevrolet Tail Light Box Wrench**

(Not Illustrated)

A special offset 12 point box wrench, to handle nut in channel on bottom of tail lamp.

Price.....\$0.65

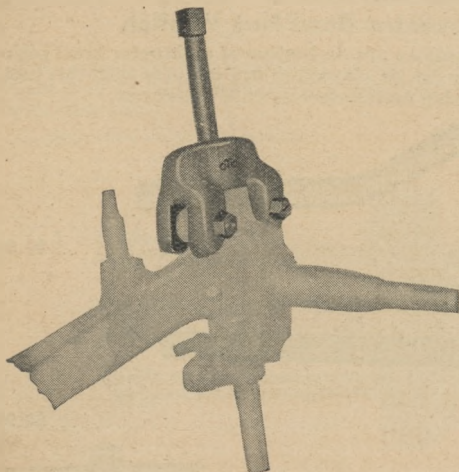
**oTc Chevrolet Theft Proof Lock Nut Wrench**

(Not Illustrated)

A small tool, but a very necessary piece of Chevrolet equipment. Permits proper adjustment without injury to cable.

Price.....\$0.50

Send us a remittance with your order and we will pay all transportation charges.



### oTc Chevrolet King Pin Remover

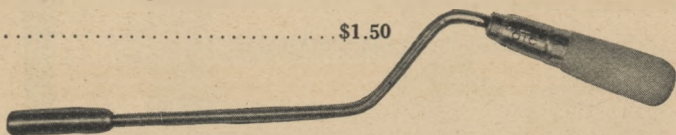
Correctly designed to push out those tight King Pins quickly and easily. The forcing screw is made from Chrome Vanadium Steel and heat treated to stand severe use. This is really a remarkable time saver and will help you beat "Flat Rate Time."

Price.....\$3.25

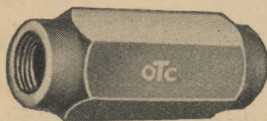
### oTc Chevrolet Pan Screw Driver

A new style, one hand speeder that is a wonder. Holds and lines up the pan screw and is a real time saver. Made of Chrome Vanadium steel and heat treated to give service. Also fits Star pan screws.

Price.....\$1.50



### oTc Chevrolet "6" Special Wheel Puller



Same design as our regular  $\frac{3}{4}$ " knock-off wheel puller except that it is  $3\frac{1}{4}$ " long, for use on late Chevrolets with wire wheels.

Price,  $\frac{3}{4}$ " SAE.....\$0.95

Price,  $\frac{13}{16}$ "-16 Thread.....1.00

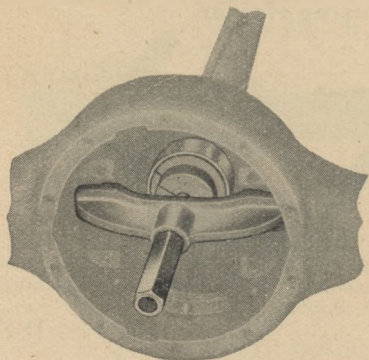
### oTc Chevrolet "6" Hub Set Punch

Made to upset the knurled shoulder on Chevrolet Hub Bolts on both disc and wire wheels.  $7\frac{1}{4}$ " long.



Starting Punch.....\$1.00  
Finishing Punch......75





### oTc Chevrolet Pinion Shaft Puller

Pulls the Chevrolet drive shaft from housing. Split casting with sleeve, permits a firm grip on drive pinion.

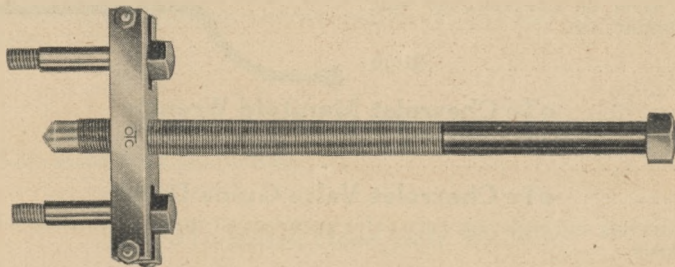
Well made and accurately machined from good material and heat-treated to give service.

A real time saver on Chevrolet rear axle work.

Price.....\$8.75

### oTc Chevrolet Fan Pulley Puller

A very practical tool for pulling Fan Pulleys on all model Chevrolets. Slotted block allows wide range of adjustments. Screw reaches through crank hole and fan pulley is pulled without removing radiator. This tool works equally well on all timing gears that are tapped for cap screws.



Price.....\$3.50  
Price, Extra Screw.....1.00

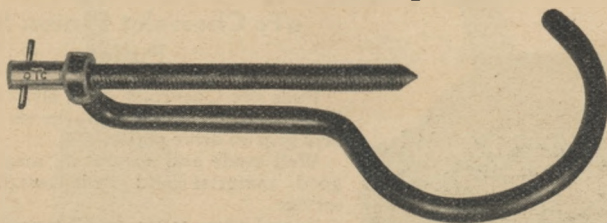
### oTc Chevrolet Fan Pulley Driver

A useful tool in replacing Chevrolet Fan Pulleys. Used in conjunction with the oTc Fan Pulley Puller. This set makes short work of removing and replacing Chevrolet Fan Pulleys without taking the radiator off.

Price.....\$1.10  
Complete set (Fan Pulley Puller & Driver).....\$4.60

Make us pay the postage and C. O. D. charges on your order by buying \$3.50 or more.

### oTc Drive Shaft Housing Holder

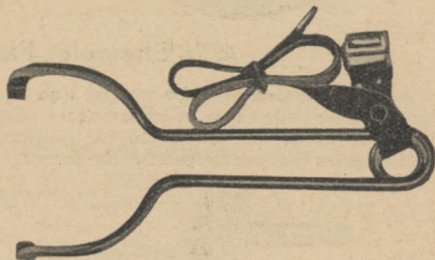


A practical tool for holding and lining up drive shaft when assembling Universal joints on cars and trucks. Has screw adjustment for raising or lowering housing. Particularly useful on Chevrolet car and truck, Pontiac, etc.

Price.....\$1.50

### oTc Universal Joint Holder

A tool for holding the front ring of universal joint rigidly in place while assembling universal joint. A wonderful time saver on Chevrolet car and truck, Pontiac, etc.



Price.....\$1.00

### oTc Chevrolet Manifold Wrench

Double end,  $\frac{1}{2}$  and  $\frac{3}{16}$ " openings.

Price.....\$0.75

### oTc Chevrolet Valve Guide Driver

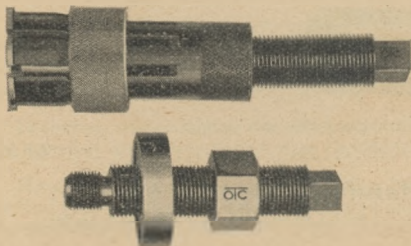
For removing and replacing worn valve guides on all models. Does the job quickly and easily.

Price.....\$0.65

### oTc Multi-Purpose Puller

This tool (illustrated and described on pages 32 & 33) can be used to good advantage in Chevrolet Service Shops because of the many difficult jobs it handles. It is doubtful that there is any one tool on the market, that will handle such a large variety of work. An oTc Multi-Purpose Puller is a good investment in any shop doing Chevrolet work. Some of the jobs it will do on Chevrolets are listed below.

1. Pulls Axle Shafts.
2. Pulls Drive Shafts
3. Pulls Transmission Shafts.
4. Pulls Cam Shafts.
5. Pulls Fan Pulleys.
6. Pulls Rear Axle Bearings.
7. Pulls Pinion Shafts.

**oTc Buick Timing Gear Set**

This set is a real time-saver to the Buick mechanic, on all work involving the timing gear on 8 cylinder models. Accurately machined from alloy steel and heat treated to give lifetime service.

Price, Buick 8 Timing Gear  
Puller.....\$5.00  
Price, Buick 8 Timing Gear  
Pusher.....1.50  
Price, Buick 8 Timing Gear Set. 6.50

**oTc Buick 6 Timing Gear Set**

A set of three tools, that is saving time for Buick mechanics everywhere on timing gear work on all 6 cylinder models.

Price, Set Complete.....\$6.50

**oTc Buick Valve Guide Driver**

For removing and replacing worn valve guides on all models. Does the job quickly and easily.

Price.....\$0.75

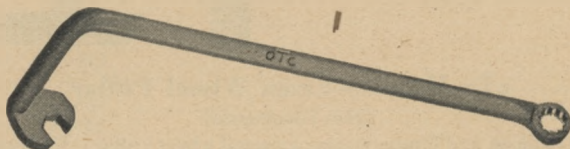
**oTc Steering Eccentric Nut Wrench**

Handles this difficult job perfectly.

Price.....\$1.25

**oTc Buick Head Bolt Wrench**

Has two openings, one, open for back bolts, the other, twelve point to get bolts between rocker arms. Hand forged from Chrome-Vanadium steel. Heat treated.

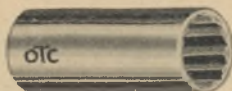


Price.....\$2.00

**Make us pay the postage and C. O. D. charges on your order by buying \$3.50 or more.**



## **oTc Plymouth Speedometer Cable Connecting Socket**



A 1 $\frac{1}{16}$ -3 $\frac{1}{2}$ " Long Extra Length Socket that does the job nicely.

Price.....\$1.35

## **oTc Plymouth Manifold Wrench**

A fixed 12 point Socket and open end wrench combination with bent handle. Does a tough job quickly and easily.

Price.....\$1.35

## **oTc Plymouth Starter Wrench**

A Twelve Point Box Wrench, with handle bent to clear starter. Does a perfect job.

Price.....\$1.00

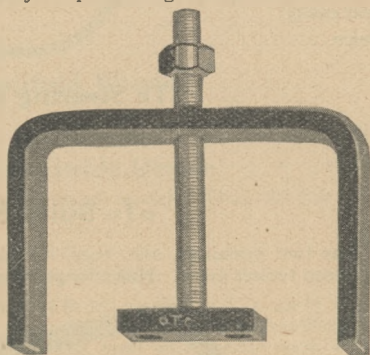
## **oTc Multi-Purpose Puller**

The oTc Multi-purpose Puller can be adapted for use on a great many difficult jobs found in Plymouth, Dodge, and other Chrysler built cars. Turn to pages 32 & 33. This tool should be Standard equipment in every shop working on these cars.

## **oTc Hudson-Essex Main Bearing Puller**

Pulls the front main bearing cap on either Hudson or Essex, also takes care of the same operation on LaSalle, Packard and Continental Motors.

Price.....\$3.50



## **oTc Hudson-Essex Wheel Puller**

(Not Illustrated)

Late Model Hudson and Essex require a special wheel puller. Puller is made 3 $\frac{1}{2}$ " long and is  $\frac{7}{8}$ " 18 thread.

Price.....\$1.25

**We pay Postage on all "Paid in Advance" Orders.**

## oTc Chisels and Punches

We believe that the punches and chisels we have sold in the past have represented more value, more service and longer wear than any other similar tools on the market. We have been proud of this fact and do not hesitate to say that for that period oTc punches and chisels were outstanding values.

However, our policy of constant research and improvement would not allow us to be satisfied and it was found that the BEST could be made even BETTER.

New alloys were tested and the latest heat treating methods were used in an effort to find the combination that would give our punches and chisels more value to you in service and satisfaction.

After diligent search and continual experimentation a new steel was found, the proper heat treatment was devised and today oTc punches and chisels again set a new standard of quality.

The new steel is extremely close grained and exceptionally tough, and is readily adapted to the new method of tempering. These new punches and chisels are tempered with a view to eliminating the mushrooming and chipping of the head, to strengthen the body of the tool to eliminate bending, and to toughen the cutting edge so that it will retain its sharpness through months of service.

Without additional cost or increase in price these remarkable punches and chisels are now available with the assurance that once you use them you will use no others.

### oTc Chisels



Size	Price
$\frac{1}{4}$ "—5" Long— $\frac{5}{16}$ " Bit.....	\$0.40
$\frac{5}{16}$ "—5 $\frac{1}{2}$ " Long— $\frac{3}{8}$ " Bit.....	.40
$\frac{3}{8}$ "—6" Long— $\frac{7}{16}$ " Bit.....	.45
$\frac{1}{2}$ "—6 $\frac{1}{2}$ " Long— $\frac{9}{16}$ " Bit.....	.55
$\frac{5}{8}$ "—7" Long— $\frac{3}{4}$ " Bit.....	.65
$\frac{3}{4}$ "—8" Long— $\frac{7}{8}$ " Bit.....	.75
Set of Six in Kit.....	3.00

### Extra Length Chisels

$\frac{3}{4}$ "—14" Long— $\frac{7}{8}$ " Bit.....	\$1.75
$\frac{3}{4}$ "—18" Long— $\frac{7}{8}$ " Bit.....	2.00

### oTc Mechanics' Special Chisel

Made from  $\frac{5}{8}$ " stock, with long thin bit. Very handy for cutting brake band rivets, etc.



$\frac{5}{8}$ " Octagon Stock, 7" Long,  $\frac{3}{4}$ " Bit.....\$0.80

### oTc Round Nose Chisel



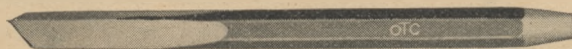
$\frac{1}{2}$ " Octagon Stock, 6 $\frac{1}{2}$ " Long,  $\frac{5}{16}$ " Bit.....\$0.70

### oTc Cape Chisel



$\frac{5}{16}$ " Octagon Stock, 5" Long,  $\frac{1}{4}$ " Bit.....\$0.50  
 $\frac{1}{2}$ " Octagon Stock, 6 $\frac{1}{2}$ " Long,  $\frac{3}{8}$ " Bit..... .70

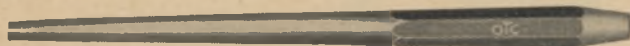
### oTc Diamond Point Chisel



$\frac{1}{2}$ " Octagon Stock, 6 $\frac{1}{2}$ " Long.....\$0.70

### oTc Slim Taper Punches

oTc Punches are made under the same specifications as our chisels. Built to withstand continued hard usage, they will not bend, chip or mushroom either on the head or on the point. They are worthwhile values that should not be overlooked.



Size	Price
$\frac{1}{4}$ "—5" Long, $\frac{1}{8}$ " Bit.....	\$0.40
$\frac{5}{16}$ "—6" Long, $\frac{5}{32}$ " Bit.....	.40
$\frac{3}{8}$ "—7" Long, $\frac{3}{16}$ " Bit.....	.45
$\frac{1}{2}$ "—8" Long, $\frac{1}{4}$ " Bit.....	.55
$\frac{5}{8}$ "—9" Long, $\frac{3}{8}$ " Bit.....	.65
$\frac{3}{4}$ "—10" Long, $\frac{5}{16}$ " Bit.....	.75
Set of Six in Kit.....	3.00



### oTc Pin Punches

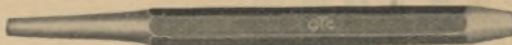
One of the most essential tools in automobile work. Hand forged from  $\frac{1}{2}$ " Chrome vanadium steel, tempered from end to end, 7" long.



Bit Size	Price	Bit Size	Price
$\frac{3}{16}$ " .....	\$0.80	$\frac{5}{16}$ " .....	\$0.80
$\frac{1}{4}$ " .....	.80	Set of Three in Kit .....	2.20

### oTc Starter Punches

Tight pins should be started before using pin punch. Hand forged from  $\frac{1}{2}$ " Chrome vanadium steel  $6\frac{1}{2}$ " long.



Bit Size	Price	Bit Size	Price
$\frac{3}{16}$ " .....	\$0.70	$\frac{5}{16}$ " .....	\$0.70
$\frac{1}{4}$ " .....	.70	Set of Three in Kit .....	1.90

### oTc Center Punches

Size	Price
$\frac{1}{4}$ " Octagon Stock, 3" Long .....	\$0.30
$\frac{5}{16}$ " Octagon Stock, $3\frac{1}{2}$ " Long .....	.35
$\frac{3}{8}$ " Octagon Stock, 4" Long .....	.40
$\frac{1}{2}$ " Octagon Stock, $4\frac{1}{2}$ " Long .....	.45
$\frac{5}{8}$ " Octagon Stock, 5" Long .....	.50
$\frac{3}{4}$ " Octagon Stock, $5\frac{1}{2}$ " Long .....	.60
Set of Six in Kit .....	2.50

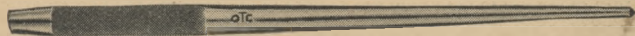
### oTc Magneto Pin Punches

For use on magneto, generator and other work where small pins must be removed. Hand forged from  $\frac{5}{16}$ " chrome vanadium steel. 3" long overall. Will stand a lot of punishment.

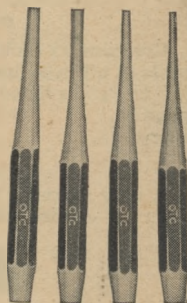
Bit Size	Price	Bit Size	Price
$\frac{1}{16}$ " .....	\$0.35	Starter Punch .....	\$0.35
$\frac{3}{16}$ " .....	.35	Set of Three .....	1.00
$\frac{1}{8}$ " .....	.35	Set of Four .....	1.35

### oTc Assembling Punch

A perfect tool for lining up holes in fenders, frames, motors, etc. 14" long. Heat treated from end to end.

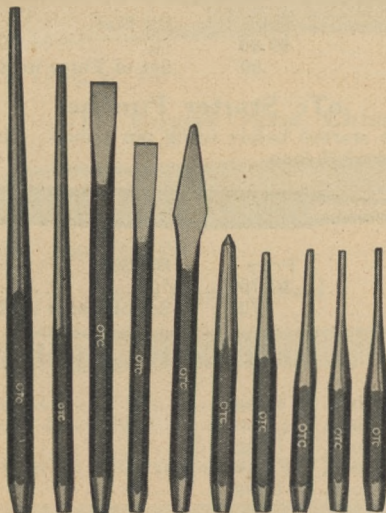


Price .....	\$0.95
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### oTc Midget Punch and Chisel Set

A compact, handy set of small forged tools that every mechanic should have. Consists of one each of the following tools:  $\frac{1}{4}$  and  $\frac{5}{16}$ " Slim Taper Punch,  $\frac{1}{4}$  and  $\frac{5}{16}$ " Cold Chisel,  $\frac{5}{16}$ " Cape Chisel,  $\frac{5}{16}$ " Center Punch, Starter Punch,  $\frac{1}{8}$ ,  $\frac{3}{32}$  and  $\frac{3}{16}$ " Pin Punches in leatherette roll. These tools are strictly oTc quality hand forged from Chrome-Vanadium Steel and heat treated to give maximum service.



Price.....\$3.00

### oTc Combined Punch & Chisel Set

Contains six each of the most popular and most used Punches and Chisels. Twelve tools in all in a handy leatherette roll. This set consists of six Cold Chisels from  $\frac{1}{4}$ " to  $\frac{3}{4}$ " as listed on page 53 and six Taper Punches from  $\frac{1}{4}$ " to  $\frac{3}{4}$ " as listed on page 54.

Price.....\$6.00

### oTc Rivet Buster

A very practical tool for shearing rivets off from Frames, Ring Gears, etc. Made from  $\frac{3}{4}$ " square tool steel and tempered all the way through.



Price—10".....\$1.25

Price—14".....1.50

Postage and C. O. D. charges prepaid on this set to any point in the United States.

## USEFUL INFORMATION

We have endeavored to compile, in this catalogue, useful information regarding not only oTc tools and equipment but data that will be of interest and use to you in your every day work.

In this regard we have departed from the usual procedure in editing a catalogue assuming that since these helps will be of value to you, you will be more interested in keeping our catalogue as a valuable source of information.

We have attempted to list and explain the various uses to which each tool can be put and in many cases have given the approved methods of doing difficult jobs. In addition to all this we have devoted a section of our catalogue to "Useful Information" in an effort to be of further service to our customer friends.

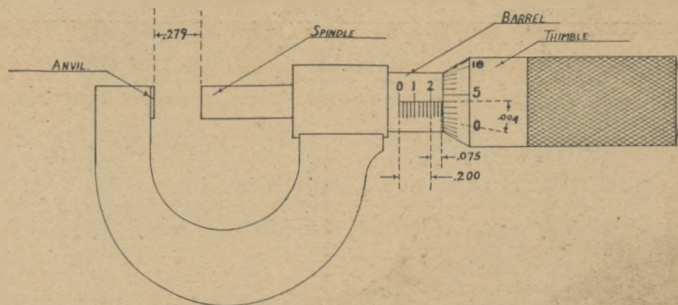
We feel certain that your appreciation for these helps will be reflected in your desire to keep our catalogue as a constant reference and in your continued good will toward the Owatonna Tool Company.



## "Useful Information"

FRACTIONS OF AN INCH IN EQUIVALENT DECIMALS  
FOR USE IN CONNECTION WITH MICROMETER CALIPERS

Fractions of an Inch		Decimals of an Inch	Fractions of an Inch		Decimals of an Inch
$\frac{1}{64}$	=	.015625	$\frac{33}{64}$	=	.515625
$\frac{1}{32}$	=	.03125	$\frac{17}{32}$	=	.53125
$\frac{3}{64}$	=	.046875	$\frac{35}{64}$	=	.546875
$\frac{1}{16}$	=	.0625	$\frac{9}{16}$	=	.5625
$\frac{5}{64}$	=	.078125	$\frac{37}{64}$	=	.578125
$\frac{3}{32}$	=	.09375	$\frac{19}{32}$	=	.59375
$\frac{7}{64}$	=	.109375	$\frac{39}{64}$	=	.609375
$\frac{1}{8}$	=	.125	$\frac{5}{8}$	=	.625
$\frac{9}{64}$	=	.140625	$\frac{41}{64}$	=	.640625
$\frac{5}{32}$	=	.15625	$\frac{21}{32}$	=	.65625
$\frac{11}{64}$	=	.171875	$\frac{43}{64}$	=	.671875
$\frac{3}{16}$	=	.1875	$\frac{11}{16}$	=	.6875
$\frac{13}{64}$	=	.203125	$\frac{45}{64}$	=	.703125
$\frac{7}{32}$	=	.21875	$\frac{23}{32}$	=	.71875
$\frac{15}{64}$	=	.234375	$\frac{47}{64}$	=	.734375
$\frac{1}{4}$	=	.250	$\frac{3}{4}$	=	.750
$\frac{17}{64}$	=	.265625	$\frac{49}{64}$	=	.765625
$\frac{9}{32}$	=	.28125	$\frac{25}{32}$	=	.78125
$\frac{19}{64}$	=	.296875	$\frac{51}{64}$	=	.796875
$\frac{5}{16}$	=	.3125	$\frac{13}{16}$	=	.8125
$\frac{21}{64}$	=	.328125	$\frac{53}{64}$	=	.828125
$\frac{11}{32}$	=	.34375	$\frac{27}{32}$	=	.84375
$\frac{23}{64}$	=	.359375	$\frac{55}{64}$	=	.859375
$\frac{3}{8}$	=	.375	$\frac{7}{8}$	=	.875
$\frac{25}{64}$	=	.390625	$\frac{57}{64}$	=	.890625
$\frac{13}{32}$	=	.40625	$\frac{29}{32}$	=	.90625
$\frac{27}{64}$	=	.421875	$\frac{59}{64}$	=	.921875
$\frac{7}{16}$	=	.4375	$\frac{15}{16}$	=	.9375
$\frac{29}{64}$	=	.453125	$\frac{61}{64}$	=	.953125
$\frac{15}{32}$	=	.46875	$\frac{31}{32}$	=	.96875
$\frac{31}{64}$	=	.484375	$\frac{63}{64}$	=	.984375
$\frac{1}{2}$	=	.500	1 in.	=	1.000



## How to Read a Micrometer

Every good mechanic should have a good "mike" and should be able to read it quickly and accurately. Before you can do this, you must thoroughly understand the principle on which it works.

The "mike" Screw has 40 threads to the inch. One complete turn of the Thimble (to which the Screw is attached) advances the Spindle  $1/40$  of an inch.  $1/40$  of an inch equals 25 thousandths (.025). So obviously each complete turn on the Thimble advances the Spindle 25 thousandths of an inch (.025).

The Thimble has a scale on its circumference with 25 divisions, each division obviously records  $1/25$  of a turn on the screw. Now if one complete turn of the Thimble advances the Spindle 25 thousandths (.025) then  $1/25$  of a turn advances it  $1/25$  of 25 thousandths or 1 thousandth (.001) of an inch. Every 5th one of these graduations are numbered thus—0, 5, 10, 15, 20.

The Barrel has a scale marked along its side which is exactly 1" long. This scale has 40 divisions. These divisions are spaced 25 thousandths (.025) apart. Every 4th one is numbered 0, 1, 2, 3, etc. Obviously 4 divisions equal  $4 \times .025$  or 100 thousandths (.100). So the numbers on the scale on the side of the Barrel are really 100 thousandths (.100), 200 thousandths (.200), 300 thousandths (.300), etc. These numbers greatly simplify the reading of the "mike".

Example: Notice the largest figure visible on the side of the barrel. In the above cut the figure is 2, this means 200 thousandths. Next count the number of divisions visible between the 2 line and the end of the Thimble. In the above cut there are 3 and as each of these divisions means 25 thousandths, we multiply  $.025 \times 3 = 75$  thousandths. Add  $.200 + .075 = 275$  thousandths, which is the reading on the barrel. Add to this the reading on the Thimble which in the above cut is 4 thousandths, thus  $.275 + .004 = 279$  thousandths, (.279), which is the correct reading of the mike in the above illustration.

# DRILL AND TAP SIZES FOR S. A. E., U. S. S. AND PIPE THREADS

## S. A. E. CAP SCREWS

Screw Size	Thread	Drill
$\frac{1}{4}$ "	28	$\frac{7}{32}$ "
$\frac{5}{16}$ "	24	$\frac{17}{64}$ "
$\frac{3}{8}$ "	24	$\frac{21}{64}$ "
$\frac{7}{16}$ "	20	$\frac{3}{8}$ "
$\frac{1}{2}$ "	20	$\frac{7}{16}$ "
$\frac{9}{16}$ "	18	$\frac{1}{2}$ "
$\frac{5}{8}$ "	18	$\frac{35}{64}$ "
$\frac{11}{16}$ "	16	$\frac{39}{64}$ "
$\frac{3}{4}$ "	16	$\frac{43}{64}$ "
$\frac{7}{8}$ "	14	$\frac{25}{32}$ "
1"	14	$\frac{29}{32}$ "
$1\frac{1}{8}$ "	12	$1\frac{1}{64}$ "
$1\frac{1}{4}$ "	12	$1\frac{9}{64}$ "
$1\frac{3}{8}$ "	12	$1\frac{17}{64}$ "
$1\frac{1}{2}$ "	12	$1\frac{25}{64}$ "

## U. S. S. BOLT THREAD

Bolt Size	Thread	Drill
$\frac{1}{4}$ "	20	$\frac{3}{16}$ "
$\frac{5}{16}$ "	18	$\frac{1}{4}$ "
$\frac{3}{8}$ "	16	$\frac{5}{16}$ "
$\frac{7}{16}$ "	14	$\frac{11}{32}$ "
$\frac{1}{2}$ "	13	$\frac{13}{32}$ "
$\frac{9}{16}$ "	12	$\frac{29}{64}$ "
$\frac{5}{8}$ "	11	$\frac{37}{64}$ "
$\frac{3}{4}$ "	10	$\frac{7}{8}$ "
$\frac{7}{8}$ "	9	$\frac{41}{64}$ "
1"	8	$\frac{27}{32}$ "
$1\frac{1}{8}$ "	7	$\frac{61}{64}$ "
$1\frac{1}{4}$ "	7	$1\frac{1}{16}$ "
$1\frac{3}{8}$ "	6	$1\frac{11}{64}$ "
$1\frac{1}{2}$ "	6	$1\frac{19}{64}$ "
$1\frac{3}{4}$ "	12	$1\frac{1}{64}$ "

## PIPE THREADS

Pipe Size	Thread	Drill
$\frac{1}{8}$ "	27	$\frac{21}{64}$ "
$\frac{1}{4}$ "	18	$\frac{29}{64}$ "
$\frac{3}{8}$ "	18	$\frac{19}{32}$ "
$\frac{1}{2}$ "	14	$\frac{23}{32}$ "
$\frac{3}{4}$ "	14	$\frac{11}{16}$ "
1"	$11\frac{1}{2}$	$1\frac{3}{16}$ "
$1\frac{1}{4}$ "	$11\frac{1}{2}$	$1\frac{15}{32}$ "
$1\frac{1}{2}$ "	$11\frac{1}{2}$	$1\frac{23}{32}$ "
2"	$11\frac{1}{2}$	$2\frac{3}{16}$ "
$2\frac{1}{2}$ "	8	$2\frac{11}{16}$ "
3"	8	$3\frac{5}{16}$ "
$3\frac{1}{2}$ "	8	$3\frac{13}{16}$ "



### Useful Information

To find the circumference of a circle, multiply the diameter by 3.1416.

To find the diameter of a circle, multiply the circumference by .31831

To find the area of a circle, multiply the square of the diameter by .7854

To find the surface of a ball (sphere), multiply the square of the diameter by 3.1416.

To find the side of an equal square, multiply the diameter by .70711.

To find the cubic inches (volume) in a ball, multiply the cube of the diameter by .5236.

Doubling the diameter of a pipe increases its capacity four times.

The radius of a circle x 6.283185 equals the circumference.

The square of the circumference of a circle x .07958 equals the area.

Half the circumference of a circle x half its diameter equals the area.

The circumference of a circle x .159155 equals the radius.

The square root of the area of a circle x .56419 equals the radius.

The square root of the area of a circle x 1.12838 equals the diameter.

To find the area of a square, or the section of a flat bar, or of a rectangle, multiply the width by the thickness. In a square these dimensions are the same.

To find the area of an octagon, multiply the square of the diameter of the inscribed circle by .828.

To find the area of a regular hexagon, multiply the square of the diameter of the inscribed circle by .866.

To find the area of a triangle, multiply the width of the base by one-half of the perpendicular height.

## Service Shop Motor Reconditioning Data

### PISTON CLEARANCE

Standard clearance allowance for grey iron piston skirts is .00075" (three-quarter thousandth) per inch of piston diameter for pleasure car motors. Applied to different piston diameters, clearances are as follows:

- 2  $\frac{1}{2}$ " piston allow .002" clearance
- 3" piston allow .0025" clearance
- 3  $\frac{1}{2}$ " piston allow .003" clearance
- 4" piston allow .0035" clearance

Many authorities recommend a clearance of .001" per inch of piston diameter on pistons of motors subject to abusive treatment such as taxi-cabs, trucks and tractors, unless their motors are thoroughly run-in. Applied to a 4" dia. truck piston, clearance allowance is .004". In extreme cases, when heavy duty motors are subjected to constant high speed, an additional .001" clearance should be added to the total diameter clearance.

Upper piston lands (sections above and between rings) must have additional clearance. Top land should have .0035" clearance per inch of piston diameter, second land .003" per inch, and the third land .002" per inch of diameter. Unless this clearance is allowed, extreme heating may cause piston head to seize and pull off. In fitting aluminum or alloy pistons piston maker's instructions must be followed.

Aluminum alloy split skirt piston clearance is the same as for cast iron pistons, except where special clearance is specified by maker.

When split skirt pistons are used it is important that the split be installed on the driver's side of the motor, as this is the side of minimum thrust.

Cylinder bores must be refinished to within one thousandth of an inch (.001") for round and straight. This means half a thousandth (.0005") plus or minus a given size. Connecting rods and pistons must be in perfect alignment—at absolute right angles with crankshaft and cylinder. Always use a connecting rod and piston aligner.

### PISTON PIN CLEARANCE

Allow .0005" to .00075" (one-half to three-quarter thousandth inch) clearance for oil-film when fitting pins to reamed holes. Pins bearing in cast-iron pistons should have no "drag," but should turn almost free. Oil thoroughly before assembling.

### BEARING CLEARANCE

Do not assemble main and crankpin bearings tight to shaft but in fitting allow .001" clearance for each inch of pin diameter. Ream solid bearings .001" to .0015" oversize. End play on main bearings .004" to .005" for regular sized motors and about .010" on big trucks and tractors.

### CYLINDER GAUGING

A cylinder measuring or indicating gauge is an instrument for testing the straightness and roundness of cylinders. It indicates in thousandths of an inch the amount of taper and out-of-roundness. It measures cylinder diameters before and after reconditioning and compares the sizes of all cylinders in a block.

An inside micrometer is used to determine what size piston will fit the hole, or to determine the actual cylinder diameter.

### PISTON RING GAPS

CYLINDER BORE	GAP	CYLINDER BORE	GAP
2 $\frac{3}{4}$ —2 $\frac{7}{8}$	.015	3 $\frac{7}{8}$ —4	.021
2 $\frac{15}{16}$ —3 $\frac{1}{16}$	.016	4 $\frac{1}{16}$ —4 $\frac{3}{16}$	.022
3 $\frac{1}{8}$ —3 $\frac{1}{4}$	.017	4 $\frac{1}{4}$ —4 $\frac{3}{8}$	.023
3 $\frac{5}{16}$ —3 $\frac{7}{16}$	.018	4 $\frac{7}{16}$ —4 $\frac{9}{16}$	.024
3 $\frac{1}{2}$ —3 $\frac{5}{8}$	.019	4 $\frac{5}{8}$ —4 $\frac{3}{4}$	.025
3 $\frac{11}{16}$ —3 $\frac{13}{16}$	.020	4 $\frac{13}{16}$ —4 $\frac{15}{16}$	.026

## "Useful Information"

CAR MAKE AND MODEL	IGNITION			VALVE CLEARANCE			
	Breaker Gap (In Inches)	Spark Plug Gap (In Inches)	Spark Tim- ing Ad- vance Note*	Operating		Clearance While Tuning Valves	
				Intake (in inches)	Exhaust (in inches)	Intake (in inches)	Exhaust (in inches)
Buick 1933 33-50	.015	.025	7°	.008	.008		
Buick 1933-33-60	.015	.025	11°	.008	.008		
Buick 1933 33-80, 33-90	.015	.025	10°	.008	.008		
Buick 1934 34-50	.0125-	.020	7°	.008	.008		
Buick 1934 34-60, 34-90	.0125	.020	10°	.008	.008		
	.0175	.025					
Chev. Master Series							
CA 1933	.018	.032	12°	.006	.008		
Chev. Master Series							
DA 1934	.018	.032	17°	.006	.013		
Chrysler "6" 1933	.020	.025		.005	.007	.011	.012
Chrysler "8" 1933	.018	.025	2°	.005	.007	.011	.012
Chrysler "6" 1934	.020	.025		.005	.007	.010	.010
Chrysler "8" 1934	.018	.025		.005	.007	.011	.012
DeSoto Model SD 1933	.020	.025	9°	.005	.007	.011	.012
DeSoto Model SE 1933	.020	.025		.005	.007	.011	.012
DeSoto Airflow 1934	.020	.025		.005	.007	.011	.012
Dodge Six 1933	.020	.025	3°	.005	.007	.011	.012
Dodge Eight 1933	.018	.025	4°	.005	.007	.011	.012
Dodge Six 1934	.020	.025		.005	.007	.011	.012
Essex Terraplane "8" 1933	.020	.025		.006	.008		
Terraplane Six 1933	.020	.025		.006	.008		
Terraplane Six 1934	.020	.022		.006	.008		
Ford "V8" 1932	.012-.014	.025				.0125-	.0135
Ford "V8" 1933	.013	.025	4°			.013	.013
Ford "V8" 1934	.012-.014	.025	†			.0125	.0135
Franklin 1933 Olympic							
Series 18	.020	.025		.007	.007		
Plymouth 1933	.020	.025		.005	.007	.011	.012
Plymouth 1934	.020	.025		.005	.007	.011	.012
Studebaker 1933	.020	.025		.004	.006	.010	.010
Studebaker 1934	.018-.024	.025		.004	.006	.010	.010

\*Timing is given in degrees before top dead center. Degrees are measured on the fly wheel. Inches are measured on the fly wheel or in piston travel. For example  $\frac{1}{8}$ " would be on Fly wheel while a decimal dimension such as .010" would be piston travel.

†Ford V8 Timing. Adjust Breaker Points to .012 to .014. Turn vacuum brake adjusting screw in not more than two or three turns and tighten locking nut. Set breaker adjusting screw in center of slot in distributor body. Test motor on acceleration (a distinct ping should be heard), screw in vacuum brake adjusting screw only sufficient to eliminate ping on acceleration.



### "Testing oTc Sockets"



**Rockwell Hardness Tester**

Thousands of "Rockwells" are in use so that "Rockwell" Hardness Specifications are understood and accepted everywhere. Practically every steel and brass mill in the United States, Canada, Europe and Japan has one or more Rockwells.

This tester is equipped with a "Diamond" Penetrator which leaves nothing to the imagination. When an oTc tool is tested with this delicate instrument we actually KNOW its strength and toughness.

To insure uniformity in strength and hardness in oTc tools, nothing is left to chance or guess work. Every precaution is taken and every test is made to insure oTc tools against defects in material and workmanship. oTc has gone to a great deal of expense to install a testing laboratory and the results we have obtained have been well worthwhile. oTc tools undergo rigid examination and testing in order that you may receive the best for your money.

**Those who test their products are not afraid of the truth.**

From Canada to Mexico, from the Atlantic to the Pacific, oTc sets the standard of quality in mechanics tools.

Service managers, Shop foremen and other employers of automotive mechanics are interested in your tool kit. When they look it over will you be proud to display it or will you be forced to alibi.

In order to GET and HOLD a good job, a tool box full of good tools is essential.

A tool box full of oTc tools is a recommendation in itself.

You can fill ALL your tool needs from this catalogue.

President William McKinley said: "I do not prize the word 'cheap'. It is not a word of hope, nor a word of cheer. It is not a word of inspiration. It is the badge of poverty—the signal of distress. Cheap merchandise means cheap men—and cheap men, a cheaper country."



OTC  
THE  
UTMOST  
IN TOOLS